UNITED STATES PATENT AND TRADEMARK OFFICE

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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/588,501	KATO, MOTOKI
	Examiner	Art Unit
	CHRISTOPHER CRUTCHFIELD	2466

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _08 April 2011_.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _24-59_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _24-59_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☒ All   b) ☐ Some * c) ☐ None of:

   1. ☒ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible

for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has

been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37

CFR 1.114. Applicant's submission filed on 8 April 2011 has been entered.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a
> whole would have been obvious at the time the invention was made to a person having
> ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

3.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness
        or nonobviousness.

4.   **Claims 24-27, 29-31, 33, 35, 37-39, 42-44, 47, 49, 51-53 and 56-58** are rejected under

35 U.S.C. 103(a) as being unpatentable over The ISO/IEC 13818-1 Standard ("The Standard")

(Author Unknown, Generic Coding of Moving Pictures and Associated Audio: Systems,

International Organization for Standardization, Workgroup 11 - Coding of Moving Pictures and

Associate Audio, Pages 1-130, 13 November 1994) in view of *Bruls*, et al. (US Pre Grant

Publication No. 2006/0098937 A1) and *Yahata*, et al. (US Pre Grant Publication No.

2009/0010614 A1).

Regarding claims 24, 25 and 26, *The Standard* discloses an information processing

apparatus, an information processing method implemented using an information processing

apparatus having at least encoding and packetizing parts and a non-transitory computer

readable medium having stored thereon a program that when executed by the computer causes

the computer to execute an information processing method comprising:

a. Encoding means, an encoding step of encoding, using the information processing

apparatus and an encoding step for encoding an input stream so as to include a base

stream (Pages xi-xix, 3-6, 10-13, 21-22,43-50). (The system of The Standard discloses a

system for the encoding and transport of MPEG data [Pages xi-xix]. The system

operates by receiving an incoming video stream [i.e. input stream] [See Fig. 0-1, "Video

data" and "Audio Data", Page xi], encoding the stream into one or more packetized

elementary streams ["PES"] associated with the input stream [Pages xi-xii] [See also

Page 35, Table 2-19, "ISO/IEC 12818-3 … audio steam number" - Showing the

elementary streams may be part of a layered audio architecture], packetizing the one or

more PES into a transport stream ["TS"] [Fig. 0-1, "Packetizer" and "Mux", Page xii] [See

also Pages xvi-xix, particularly sections 0.4, 0.7 and 0.8], transmitting the TS across a

network to a decoder [Page xii], receiving the TS at the decoder, separating out the input

stream by de-multiplexing the PES's associated with the input stream, decoding the

input stream and providing the decoded video/audio for output [Pages xii-xiii, Particularly

Fig. 0-2] [See also Pages xvi-xix, Particularly Sections 0.4, 0.7 and 0.8].)

b. Adding means for and an adding step of adding ID information that respectively

distinguishes the base stream from other streams (Fig. 0-1, "Packetizer" and "Mux",

Page xii, and "PID", Page 22). (The Standard discloses that each packet of the PES

bears the PID associated with that elementary stream).

d. A packetizing means for packetizing a packetizing step of packetizing, using the

information processing apparatus the base stream, a packetizing step of packetizing the

base stream to which the ID information is added by the adding means, into TS packets

(Fig. 0-1, "Packetizer" and "Mux", Page xii, and "PID", Page 22). (The Standard

discloses that all of the individual streams, including the streams bearing the program

association table and program map table are packetized, including adding the PID to the

packet, and multiplexed into a single TS [Fig. 0-1, "Packetizer" and "Mux", Page xii,

Pages 22 and 43-46].)

The Standard fails to disclose the use of more than one extensible enhancement layers,

each associated with a separate ID so as to create an encoding means, an encoding step of

encoding, using the information processing apparatus and an encoding step for encoding an

input stream so as to include, among a base stream and first to n-th extension streams having

extensibility for the base stream, at least the base stream and the first extension stream, an adding means for and an adding step of adding ID information that respectively distinguishes the base stream from the first to n-th extension streams, which are encoded by the encoding means, to the base stream and the first to n-th extension streams and a packetizing means for packetizing the base stream and the first to n-th extension streams, a packetizing step of packetizing, using the information processing apparatus, the base stream and the first to n-th extension streams to which the transport priority information is added by the adding step, into TS Packets. In the same field of endeavor, *Bruls* discloses the use of more then one extensible enhancement layers, each associated with a separate ID so as to create an encoding means, an encoding step of encoding, using the information processing apparatus and an encoding step for encoding an input stream so as to include, among a base stream and first to n-th extension streams having extensibility for the base stream, at least the base stream and the first extension stream, an adding means for and an adding step of adding ID information that respectively distinguishes the base stream from the first to n-th extension streams, which are encoded by the encoding means, to the base stream and the first to n-th extension streams and a packetizing means for packetizing the base stream and the first to n-th extension streams, a packetizing step of packetizing, using the information processing apparatus, the base stream and the first to n-th extension streams to which the transport priority information is added by the adding step, into TS Packets (Paragraphs 0031, 0039, and 0042). (The system of *Bruls* discloses the use of a base and one or more extensible enhancement layers for encoding and transporting programs using MPEG encoding techniques [Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls* further discloses that the system uses a separate PID to identify the base and enhancement layers [Paragraph 0042] and that the base and enhancement layers may be a part of different transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible enhancement layers, and The Standard discloses the use of an adding and packetizing means for adding identifier information to a stream and packetizing the stream it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the extensible layers of *Bruls* with the system of *The Standard* by implementing one or more extensible enhancement layers, each identified with a separate ID. The motive to combine is to allow the system of *The Standard* to support extensible layered video, which allows increased flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*, Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of the invention, it is unclear if Paragraph 0003 is a part of the background of the invention, therefore constituting a separate disclosure.) In the same field of endeavor, The Background of *Bruls* discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple extension layers of The Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting more then one extension stream as a separate elementary stream with its own stream ID. The motive to combine is to allow enhanced flexibility by providing multiple extension streams so that endpoints can decode one or more of the extension streams to obtain incremental quality increases.

The Standard as modified by *Burls* fails to disclose the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets, such that the information

processing apparatus and method further comprises adding transport priority information that

indicates priority and respectively distinguishes the base stream from the first to n-th extension

streams and packetizing the base stream and the first to n-th extension streams, to which the

transport priority information is added by the adding means, into TS packets. In the same field of

endeavor, *Yahata* discloses the use of a priority field, as opposed to an ID field, to de-multiplex

base and enhancement layer packets, such that the information processing apparatus and

method further comprises adding transport priority information that indicates priority and

respectively distinguishes the base stream from the first to n-th extension streams and

packetizing the base stream and the first to n-th extension streams, to which the transport

priority information is added by the adding means, into TS packets (Paragraphs 0298 and 0326-

0338). (The system of *Yahata* discloses a system that uses a priority bit to de-multiplex a base

frame for a DVD encoding from an extension/enhancement layer frame used for the

enhancement information for blu-ray encoding [Paragraphs 0326-0335]. The priority bit is used

to separate the base layer and the level 1 enhancement layer [i.e. Base+Level-EXT] used for

DVD transmission from the level 2 enhancement layer [i.e. Level 2-EXT] [Paragraph 0326].

Yahata further discloses that the system combines the base layer and the first enhancement

layer in view of the "widespread use" of devices that support the base layer and the first

enhancement layer [i.e. the widespread use of traditional DVD style encoders does not require

the separation of the base and the first enhancement layer, as all devices support both layers,

so only the second enhancement layer, used for HD type devices is separated] [Paragraph

0298].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and

enhancement layers that are contained in elementary streams and the system of *The Standard*

as modified by *Burlsi* suggests that all base and enhancement layers may be transmitted in

separate elementary streams which are created by adding appropriate identifier information to streams of data and packetizing the data, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the layered priority separation of *Yahata* with the separate base and enhancement layers of *The Standard* as modified by *Burlsi* to form a system that transports and de-multiplexes a base layer and one or more transport layers based on a priority field. (i.e. The system of *Yahata* discloses the use of the priority indicator of a transport stream to separate a base layer and a first level enhancement layer from a second level enhancement layer [*Yahata*, Paragraph 0326]. The reason that the base layer [i.e. Base] and the first level enhancement layer [i.e. Level1-EXT] are allowed to remain together in one transport stream is that the system of *Yahata* is directed towards DVD decoders, which almost universally support the combination of the base and first extension layer [*Yahata*, Paragraph 0298]. However, in a system, such as that taught by *The Standard* as modified by *Burlsi,* the types of systems supported are more diverse, and unlike a traditional DVD distribution system, the base and first enhancement layer may be separately transmitted in two different transport streams [*Burlsi*, Paragraph 0042] and be decoded by devices that support only the base stream or the base and one or more enhancement streams [See For Example, *Burlsi*, Paragraph 0044-Showing both SD and HD TVs]. Therefore, a person of ordinary skill in the art at the time of the invention would have recognized that the teachings of *Yahata* could be applied to the separate base and enhancement layer transport streams of *The Standard* as modified by *Burlsi* by using a priority indicator to separate one or more of the base and enhancement layers all using the same PID.) The motive to combine is provided by *Yahata* and is to allow the convenient de-multiplexing of the desired layers at diverse decoded types, each supporting the base layer and zero or more enhancement layers in accordance with the decoder capability.

In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base

system in which separated base and enhancement MPEG transport streams are transmitted to
devices which decode the base layer and one or more of the enhancement layers. The system
of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-
multiplexing base and enhancement layers in which the layers desired to be separated are
assigned unique priority indicators but the same PID and are de-multiplexed based on the
priority indicator. Therefore, the use of a priority indicator to separate the MPEG base and
enhancement layer transport streams of *The Standard* as modified by *Burls* would have been
obvious to a person of ordinary skill in the art at the time of the invention, in view of its use to
separate MPEG transport streams in the system of *Yahata*, and would have produced the
predictable result of a system that separates one or more base and enhancement layers by
using a priority indicator.

Regarding claims 27, 29 and 30 *The Standard* discloses an information processing
apparatus comprising, an information processing method implemented using an information
processing apparatus having at least a decoding part, comprising and a non-transitory computer
readable medium having stored thereon a program that when executed by the computer causes
the computer to execute an information processing method comprising:

a. An input means for inputting and input step of inputting a stream including TS packets
forming a base stream, each of the TS packets having transport identifier information
that distinguishes the base stream from other streams (Pages xi-xix, 3-6, 10-13, 21-
22,43-50). (The system of The Standard discloses a system for the encoding and
transport of MPEG data [Pages xi-xix]. The system operates by receiving an incoming
video stream [i.e. input stream] [See Fig. 0-1, "Video data" and "Audio Data", Page xi],
encoding the stream into one or more packetized elementary streams ["PES"]

associated with the input stream [Pages xi-xii], packetizing the one or more PES into a

transport stream ["TS"] [Fig. 0-1, "Packetizer" and "Mux", Page xii] [See also Pages xvi-

xix, particularly sections 0.4, 0.7 and 0.8], transmitting the TS across a network to a

decoder [Page xii], receiving the TS at the decoder, separating out the input stream by

de-multiplexing the PES's associated with the input stream, decoding the input stream

and providing the decoded video/audio for output [Pages xii-xiii, Particularly Fig. 0-2]

[See also Pages xvi-xix, Particularly Sections 0.4, 0.7 and 0.8].)

b. Determining means and a determining step for referring to the transport identifier

information stored in the TS packets input by the input means and for determining the

type of processable stream (Pages 10-17, 22 and 43-50). (The system of *The Standard*

further discloses that each packetized elementary stream is assigned a packet identifier

["PID"] [i.e. IDs] that is used to uniquely identify that stream in the transport stream [TS]

[See Particularly Section 2.4.1, Page 10 and "PID", Page 22]. Within each TS, a

program association table and program map table are periodically transmitted in a

special PES packets [Pages 43-50, Particularly Section 4.3.3 on Pages 43-44]. The

program association table associates a particular program with a program map table ID,

and the program map table associates the PIDs of the elementary streams that make up

a program with the program map table ID [Pages 43-50] and identifies the type of

processable stream [Page 63, Table 2-36].)

c. Selecting means and a selecting step for selecting, from the stream, the TS packets

having the transport identifier information associated with a selected stream (Page xiii).

(The system of The Standard discloses a channel specific decoder, which de-

multiplexes a particular channel/program [i.e. a "stream"] by determining the associated

elementary streams using the program map table and extracting them from the TS

[Pages xiii and Pages 48-49].)

d. Decoding means for decoding the TS packets selected by the selecting means

(Pages xiii and Pages 48-49 - See (c), Supra).

The Standard fails to disclose the use of more then one extensible enhancement layers,

each associated with a separate ID so as to create an input means for inputting and input step

of inputting a stream including TS packets forming a base stream, TS packets forming each of

first to n-th extension streams having extensibility for the base stream, each of the TS packets

having identifier information that indicates priority and respectively distinguishes the base

stream from the first to n-th extension streams. In the same field of endeavor, *Bruls* discloses

the use of more then one extensible enhancement layers, each associated with a separate ID

so as to create an input means for inputting and input step of inputting a stream including TS

packets forming a base stream, TS packets forming each of first to n-th extension streams

having extensibility for the base stream, each of the TS packets having identifier information that

indicates priority and respectively distinguishes the base stream from the first to n-th extension

streams (Paragraphs 0031, 0039, and 0042). (The system of *Bruls* discloses the use of a base

and one or more extensible enhancement layers for encoding and transporting programs using

MPEG encoding techniques [Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls*

further discloses that the system uses a separate PID to identify the base and enhancement

layers [Paragraph 0042] and that the base and enhancement layers may be a part of different

transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible enhancement layers, and The Standard discloses the use of an adding and packetizing means for adding identifier information to a stream and packetizing the stream it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the extensible layers of *Bruls* with the system of *The Standard* by implementing one or more extensible enhancement layers, each identified with a separate ID. The motive to combine is to allow the system of *The Standard* to support extensible layered video, which allows increased flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*, Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of the invention, it is unclear if Paragraph 0003 is a part of the background of the invention, therefore constituting a separate disclosure.) In the same field of endeavor, The Background of *Bruls* discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple extension layers of The Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting more then one extension stream as a separate elementary stream with its own stream ID. The motive to combine is to allow enhanced flexibility by providing multiple extension streams so that endpoints can decode one or more of the extension streams to obtain incremental quality increases.

The Standard as modified by *Burls* fails to disclose the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets, such that the information

processing apparatus and method further comprise an input means and step further comprising each of the TS packets having transport priority information that indicates priority and respectively distinguishes the base stream from the first to n-th extension streams and a selecting means and a selecting step for selecting, from the stream, the TS packets having the transport identifier information associated with the stream determined by a determining means to be processable. In the same field of endeavor, *Yahata* discloses the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets, such that the information processing apparatus and method further comprise an input means and step further comprising each of the TS packets having transport priority information that indicates priority and respectively distinguishes the base stream from the first to n-th extension streams and a selecting means and a selecting step for selecting, from the stream, the TS packets having the transport identifier information associated with the stream determined by a determining means to be processable (Paragraphs 0298 and 0326-0338). (The system of *Yahata* discloses a system that uses a priority bit to de-multiplex a base frame for a DVD encoding from an extension/enhancement layer frame used for the enhancement information for blu-ray encoding [Paragraphs 0326-0335]. The priority bit is used to separate the base layer and the level 1 enhancement layer [i.e. Base+Level-EXT] used for DVD transmission from the level 2 enhancement layer [i.e. Level 2-EXT] [Paragraph 0326]. *Yahata* further discloses that the system combines the base layer and the first enhancement layer in view of the "widespread use" of devices that support the base layer and the first enhancement layer [Paragraph 0298] and that each decoder may select an appropriate stream based on its capabilities [Paragraphs 0302-0310 and 0342-0352] [For example, a HD player will look at the program table [Paragraph 0303 and Fig. 38, TS_program_map] in order to determine which of the streams are of the appropriate type and will then decode both the base and the first and second enhancement

layer, while a standard DVD player will decode only the base and the first enhancement layer

streams [Paragraphs 0294-0302].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and

enhancement layers that are contained in elementary streams along with the selective decoding

of only compatible streams and the system of *The Standard* as modified by *Burlsi* suggests that

all base and enhancement layers may be transmitted in separate elementary streams and the

generation of appropriate stream identifier information and subsequent packetizing of the

outgoing streams, it would have been obvious to a person of ordinary skill in the art at the time

of the invention to combine the layered priority separation of *Yahata* with the separate base and

enhancement layers of *The Standard* as modified by *Burlsi* to form a system that transports and

de-multiplexes a base layer and one or more transport layers based on a priority field and the

supported number of enhancement layers. (i.e. The system of *Yahata* discloses the use of the

priority indicator of a transport stream to separate a base layer and a first level enhancement

layer from a second level enhancement layer [*Yahata*, Paragraph 0326]. The reason that the

base layer [i.e. Base] and the first level enhancement layer [i.e. Level1-EXT] are allowed to

remain together in one transport stream is that the system of *Yahata* is directed towards DVD

decoders, which almost universally support the combination of the base and first extension layer

[*Yahata*, Paragraph 0298]. However, in a system, such as that taught by *The Standard* as

modified by *Burlsi,* the types of systems supported are more diverse, and unlike a traditional

DVD distribution system, the base and first enhancement layer may be separately transmitted in

two different transport streams [*Burlsi*, Paragraph 0042] and be decoded by devices that

support only the base stream or the base and one or more enhancement streams [See For

Example, *Burlsi*, Paragraph 0044- Showing both SD and HD TVs]. Therefore, a person of

ordinary skill in the art at the time of the invention would have recognized that the teachings of

Yahata could be applied to the separate base and enhancement layer transport streams of *The Standard* as modified by *Burlsi* by using a priority indicator to separate one or more of the base and enhancement layers all using the same PID.) The motive to combine is provided by *Yahata* and is to allow the convenient de-multiplexing of the desired layers at diverse decoded types, each supporting the base layer and zero or more enhancement layers in accordance with the decoder capability.

In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base system in which separated base and enhancement MPEG transport streams are transmitted to devices which decode the base layer and one or more of the enhancement layers. The system of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-multiplexing base and enhancement layers in which the layers desired to be separated are assigned unique priority indicators but the same PID and are de-multiplexed based on the priority indicator and decoder compatibility. Therefore, the use of a priority indicator to separate the MPEG base and enhancement layer transport streams of *The Standard* as modified by *Burls* into compatible and non-compatible streams would have been obvious to a person of ordinary skill in the art at the time of the invention, in view of its use to separate MPEG transport streams into compatible and non-compatible streams in the system of *Yahata*, and would have produced the predictable result of a system that separates one or more compatible base and enhancement layers by using a priority indicator.

Regarding claim 31, *The Standard* discloses a non-transitory computer readable medium having stored thereon a data structure of an entire stream to be played back by a computer, the entire stream including a base stream, wherein the entire stream includes:

a. TS packets forming the base stream, a header of each of the TS packets forming the

base stream includes an ID identifying the TS packet (Pages xi-xix, 3-6, 10-13, 21-

22,43-50). (The system of The Standard discloses a system for the encoding and

transport of MPEG data [Pages xi-xix]. The system operates by receiving an incoming

video stream [i.e. input stream] [See Fig. 0-1, "Video data" and "Audio Data", Page xi],

encoding the stream into one or more packetized elementary streams ["PES"]

associated with the input stream [Pages xi-xii] [See also Page 35, Table 2-19, "ISO/IEC

12818-3 … audio steam number" - Showing the elementary streams may be part of a

layered audio architecture], packetizing the one or more PES into a transport stream

["TS"] [Fig. 0-1, "Packetizer" and "Mux", Page xii] [See also Pages xvi-xix, particularly

sections 0.4, 0.7 and 0.8], transmitting the TS across a network to a decoder [Page xii],

receiving the TS at the decoder, separating out the input stream by de-multiplexing the

PES's associated with the input stream, decoding the input stream and providing the

decoded video/audio for output [Pages xii-xiii, Particularly Fig. 0-2] [See also Pages xvi-

xix, Particularly Sections 0.4, 0.7 and 0.8].)

b. Wherein the TS packets each include identifier information that indicates distinguishes

the base stream from other streams (Fig. 0-1, "Packetizer" and "Mux", Page xii, and

"PID", Page 22). (The Standard discloses that the header of each packet of the PES

bears the PID associated with that elementary stream).

The Standard fails to disclose the use of more then one extensible enhancement layers,

each associated with a separate ID so as to create TS packets forming each of the first to n-th

extension stream, and a header of each of the TS packets forming the base stream and the TS

packets forming each of the first to n-th extension streams includes an ID identifying the TS

packet, and wherein the TS packets each include ID information that respectively distinguishes the base stream from the first to n-the extension streams. In the same field of endeavor, *Bruls* discloses the use of more then one extensible enhancement layers, each associated with a separate ID so as to create TS packets forming each of the first to n-th extension stream, and a header of each of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams includes an ID identifying the TS packet, and wherein the TS packets each include ID information that respectively distinguishes the base stream from the first to n-the extension streams (Paragraphs 0031, 0039, and 0042). (The system of *Bruls* discloses the use of a base and one or more extensible enhancement layers for encoding and transporting programs using MPEG encoding techniques [Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls* further discloses that the system uses a separate PID to identify the base and enhancement layers [Paragraph 0042] and that the base and enhancement layers may be a part of different transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible enhancement layers, and The Standard discloses the use of an adding and packetizing means for adding identifier information to a stream and packetizing the stream it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the extensible layers of *Bruls* with the system of *The Standard* by implementing one or more extensible enhancement layers, each identified with a separate ID. The motive to combine is to allow the system of *The Standard* to support extensible layered video, which allows increased flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*, Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of

the invention, it is unclear if Paragraph 0003 is a part of the background of the invention, therefore constituting a separate disclosure.) In the same field of endeavor, The Background of *Bruls* discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple extension layers of The Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting more then one extension stream as a separate elementary stream with its own stream ID. The motive to combine is to allow enhanced flexibility by providing multiple extension streams so that endpoints can decode one or more of the extension streams to obtain incremental quality increases.

The Standard as modified by *Burls* fails to disclose the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets that are a part of the same stream with a common ID, such that the TS packets forming each of the first to n-th extension stream, and a header of each of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams includes an ID identifying the TS packet, and wherein the TS packets each include transport priority information that indicates priority and respectively distinguishes the base stream from the first to n-the extension streams. In the same field of endeavor, *Yahata* discloses the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets that are a part of the same stream with a common ID, such that the TS packets forming each of the first to n-th extension stream, and a header of each of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams includes an ID identifying the TS packet, and wherein the TS packets each include transport priority information that indicates priority and respectively

distinguishes the base stream from the first to n-the extension streams (Paragraphs 0298 and

0326-0338). (The system of *Yahata* discloses a system that uses a priority bit to de-multiplex a

base frame for a DVD encoding from an extension/enhancement layer frame used for the

enhancement information for blu-ray encoding [Paragraphs 0326-0335]. The priority bit is used

to separate the base layer and the level 1 enhancement layer [i.e. Base+Level-EXT] used for

DVD transmission from the level 2 enhancement layer [i.e. Level 2-EXT] that may share the

same PID [Paragraph 0306 and 0325-0326]. *Yahata* further discloses that the system combines

the base layer and the first enhancement layer in view of the "widespread use" of devices that

support the base layer and the first enhancement layer [i.e. the widespread use of traditional

DVD style encoders does not require the separation of the base and the first enhancement

layer, as all devices support both layers, so only the second enhancement layer, used for HD

type devices is separated] [Paragraph 0298].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and

enhancement layers that are contained in elementary streams along with the selective decoding

of only compatible streams and the system of *The Standard* as modified by *Burlsi* suggests that

all base and enhancement layers may be transmitted in separate elementary streams and the

generation of appropriate stream identifier information and subsequent packetizing of the

outgoing streams, it would have been obvious to a person of ordinary skill in the art at the time

of the invention to combine the layered priority separation of *Yahata* with the separate base and

enhancement layers of *The Standard* as modified by *Burlsi* to form a system that transports and

de-multiplexes a base layer and one or more transport layers based on a priority field and the

supported number of enhancement layers. (i.e. The system of *Yahata* discloses the use of the

priority indicator of a transport stream to separate a base layer and a first level enhancement

layer from a second level enhancement layer [*Yahata*, Paragraph 0326]. The reason that the

base layer [i.e. Base] and the first level enhancement layer [i.e. Level1-EXT] are allowed to remain together in one transport stream is that the system of *Yahata* is directed towards DVD decoders, which almost universally support the combination of the base and first extension layer [*Yahata*, Paragraph 0298]. However, in a system, such as that taught by *The Standard* as modified by *Burlsi,* the types of systems supported are more diverse, and unlike a traditional DVD distribution system, the base and first enhancement layer may be separately transmitted in two different transport streams [*Burlsi*, Paragraph 0042] and be decoded by devices that support only the base stream or the base and one or more enhancement streams [See For Example, *Burlsi*, Paragraph 0044- Showing both SD and HD TVs]. Therefore, a person of ordinary skill in the art at the time of the invention would have recognized that the teachings of *Yahata* could be applied to the separate base and enhancement layer transport streams of *The Standard* as modified by *Burlsi* by using a priority indicator to separate one or more of the base and enhancement layers all using the same PID.) The motive to combine is provided by *Yahata* and is to allow the convenient de-multiplexing of the desired layers at diverse decoded types, each supporting the base layer and zero or more enhancement layers in accordance with the decoder capability.

In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base system in which separated base and enhancement MPEG transport streams are transmitted to devices which decode the base layer and one or more of the enhancement layers. The system of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-multiplexing base and enhancement layers in which the layers desired to be separated are assigned unique priority indicators but the same PID and are de-multiplexed based on the priority indicator. Therefore, the use of a priority indicator to separate the MPEG base and enhancement layer transport streams of *The Standard* as modified by *Burls* would have been

obvious to a person of ordinary skill in the art at the time of the invention, in view of its use to

separate MPEG transport streams in the system of *Yahata*, and would have produced the

predictable result of a system that separates one or more base and enhancement layers by

using a priority indicator.

Regarding claims 33, 37 and 38 *The Standard* discloses an information processing

apparatus comprising, an information processing method implemented using an information

processing apparatus having at least encoding and packetizing parts, comprising and A non-

transitory computer readable medium having stored thereon a program that when executed by

the computer causes the computer to execute an information processing method comprising:

a. Encoding means for and an encoding step of encoding at least a base stream of an

entire stream that may include the base stream (Pages xi-xix, 3-6, 10-13, 21-22,43-50).

(The system of The Standard discloses a system for the encoding and transport of

MPEG data [Pages xi-xix]. The system operates by receiving an incoming video stream

[i.e. input stream] [See Fig. 0-1, "Video data" and "Audio Data", Page xi], encoding the

stream into one or more packetized elementary streams ["PES"] associated with the

input stream [Pages xi-xii] [See also Page 35, Table 2-19, "ISO/IEC 12818-3 … audio

steam number" - Showing the elementary streams may be part of a layered audio

architecture], packetizing the one or more PES into a transport stream ["TS"] [Fig. 0-1,

"Packetizer" and "Mux", Page xii] [See also Pages xvi-xix, particularly sections 0.4, 0.7

and 0.8], transmitting the TS across a network to a decoder [Page xii], receiving the TS

at the decoder, separating out the input stream by de-multiplexing the PES's associated

with the input stream, decoding the input stream and providing the decoded video/audio

for output [Pages xii-xiii, Particularly Fig. 0-2] [See also Pages xvi-xix, Particularly

Sections 0.4, 0.7 and 0.8].)

b. First adding means for and a first adding step of adding a same first ID to the stream

encoded by the encoding means among the base stream, the first ID identifying the base

stream (Fig. 0-1, "Packetizer" and "Mux", Page xii, and "PID", Page 22). (The Standard

discloses that the header of each packet of the PES bears the PID associated with that

elementary stream).

c. A packetizing means for and a packetizing step of packetizing the base stream, to

which the first ID information is added by the first adding means into TS packets (Fig. 0-

1, "Packetizer" and "Mux", Page xii, and "PID", Page 22). (The Standard discloses that

all of the individual streams, including the streams bearing the program association table

and program map table are packetized, including adding the PID to the packet, and

multiplexed into a single TS [Fig. 0-1, "Packetizer" and "Mux", Page xii, Pages 22 and

43-46].)

The Standard fails to disclose the use of more then one extensible enhancement layers,

each associated with a separate ID such that the encoding means for and an encoding step of

encoding further comprises at least a base stream of an entire stream that may include the base

stream and first to n-th extension streams having extensibility for the base stream and a

packetizing means for and a packetizing step of packetizing the base stream and the first to n-th

extension streams, to which the first ID are added by the first adding means into TS packets. In

the same field of endeavor, *Bruls* discloses the use of more then one extensible enhancement

layers, each associated with a separate ID such that the encoding means for and an encoding

step of encoding further comprises at least a base stream of an entire stream that may include

the base stream and first to n-th extension streams having extensibility for the base stream and

a packetizing means for and a packetizing step of packetizing the base stream and the first to n-

th extension streams, to which the first ID are added by the first adding means into TS packets

(Paragraphs 0031, 0039, and 0042). (The system of *Bruls* discloses the use of a base and one

or more extensible enhancement layers for encoding and transporting programs using MPEG

encoding techniques [Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls* further

discloses that the system uses a separate PID to identify the base and enhancement layers

[Paragraph 0042] and that the base and enhancement layers may be a part of different

transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible

enhancement layers, and The Standard discloses the use of an adding and packetizing means

for adding identifier information to a stream and packetizing the stream it would have been

obvious to a person of ordinary skill in the art at the time of the invention to combine the

extensible layers of *Bruls* with the system of *The Standard* by implementing one or more

extensible enhancement layers, each identified with a separate ID. The motive to combine is to

allow the system of *The Standard* to support extensible layered video, which allows increased

flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*,

Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement

layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of

the invention, it is unclear if Paragraph 0003 is a part of the background of the invention,

therefore constituting a separate disclosure.) In the same field of endeavor, The Background of

Bruls discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple extension layers of The Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting more then one extension stream as a separate elementary stream with its own stream ID. The motive to combine is to allow enhanced flexibility by providing multiple extension streams so that endpoints can decode one or more of the extension streams to obtain incremental quality increases.

The Standard as modified by *Burls* fails to disclose the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets that are a part of the same stream with a common ID, such that the first adding means for and a first adding step of further comprises adding a same first ID to the stream encoded by the encoding means among the base stream and the first to n-th extension streams, the first ID identifying the entire stream and a second adding means for and a second adding step of adding transport priority information to, among the base stream and the first to n-th extension streams, the stream encoded by the encoding means, the transport priority information indicating priority and respectively distinguishing the base stream from, the first to n-th extension streams and a packetizing means for and a packetizing step of packetizing the base stream and the first to n-th extension streams, to which the first ID and the transport priority information are added by the first adding means and the second adding means, into TS packets. In the same field of endeavor, *Yahata* discloses the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets that are a part of the same stream with a common ID, such that the first adding means for and a first adding step of further comprises adding a same first ID to the stream encoded by the encoding means among the base stream and the first to n-th extension streams, the first ID

identifying the entire stream and a second adding means for and a second adding step of

adding transport priority information to, among the base stream and the first to n-th extension

streams, the stream encoded by the encoding means, the transport priority information

indicating priority and respectively distinguishing the base stream from, the first to n-th

extension streams and a packetizing means for and a packetizing step of packetizing the base

stream and the first to n-th extension streams, to which the first ID and the transport priority

information are added by the first adding means and the second adding means, into TS packets

(Paragraphs 0298 and 0326-0338). (The system of *Yahata* discloses a system that uses a

priority bit to de-multiplex a base frame for a DVD encoding from an extension/enhancement

layer frame used for the enhancement information for blu-ray encoding [Paragraphs 0326-

0335]. The priority bit is used to separate the base layer and the level 1 enhancement layer [i.e.

Base+Level-EXT] used for DVD transmission from the level 2 enhancement layer [i.e. Level 2-

EXT] that may share the same PID [Paragraph 0306 and 0325-0326]. *Yahata* further discloses

that the system combines the base layer and the first enhancement layer in view of the

"widespread use" of devices that support the base layer and the first enhancement layer [i.e. the

widespread use of traditional DVD style encoders does not require the separation of the base

and the first enhancement layer, as all devices support both layers, so only the second

enhancement layer, used for HD type devices is separated] [Paragraph 0298].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and

enhancement layers that are contained in elementary streams along with the selective decoding

of only compatible streams and the system of *The Standard* as modified by *Burlsi* suggests that

all base and enhancement layers may be transmitted in separate elementary streams and the

generation of appropriate stream identifier information and subsequent packetizing of the

outgoing streams, it would have been obvious to a person of ordinary skill in the art at the time

of the invention to combine the layered priority separation of *Yahata* with the separate base and

enhancement layers of *The Standard* as modified by *Burlsi* to form a system that transports and

de-multiplexes a base layer and one or more transport layers based on a priority field and the

supported number of enhancement layers. (i.e. The system of *Yahata* discloses the use of the

priority indicator of a transport stream to separate a base layer and a first level enhancement

layer from a second level enhancement layer [*Yahata*, Paragraph 0326]. The reason that the

base layer [i.e. Base] and the first level enhancement layer [i.e. Level1-EXT] are allowed to

remain together in one transport stream is that the system of *Yahata* is directed towards DVD

decoders, which almost universally support the combination of the base and first extension layer

[*Yahata*, Paragraph 0298]. However, in a system, such as that taught by *The Standard* as

modified by *Burlsi,* the types of systems supported are more diverse, and unlike a traditional

DVD distribution system, the base and first enhancement layer may be separately transmitted in

two different transport streams [*Burlsi*, Paragraph 0042] and be decoded by devices that

support only the base stream or the base and one or more enhancement streams [See For

Example, *Burlsi*, Paragraph 0044- Showing both SD and HD TVs]. Therefore, a person of

ordinary skill in the art at the time of the invention would have recognized that the teachings of

Yahata could be applied to the separate base and enhancement layer transport streams of *The*

Standard as modified by *Burlsi* by using a priority indicator to separate one or more of the base

and enhancement layers all using the same PID.) The motive to combine is provided by *Yahata*

and is to allow the convenient de-multiplexing of the desired layers at diverse decoded types,

each supporting the base layer and zero or more enhancement layers in accordance with the

decoder capability.

        In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base

system in which separated base and enhancement MPEG transport streams are transmitted to

devices which decode the base layer and one or more of the enhancement layers. The system
of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-
multiplexing base and enhancement layers in which the layers desired to be separated are
assigned unique priority indicators but the same PID and are de-multiplexed based on the
priority indicator. Therefore, the use of a priority indicator to separate the MPEG base and
enhancement layer transport streams of *The Standard* as modified by *Burls* would have been
obvious to a person of ordinary skill in the art at the time of the invention, in view of its use to
separate MPEG transport streams in the system of *Yahata*, and would have produced the
predictable result of a system that separates one or more base and enhancement layers by
using a priority indicator.

Regarding claim 35, The Standard discloses an information processing apparatus,
wherein when any of synchronization units of an extension stream corresponding to
synchronization units of the base stream are present, the encoding means encodes, the
extension stream and the base stream (Pages 80-81, Section 2.7.6). (The system of The
Standard Discloses that if scalable coding is used, with spatial scaling, the encoder must, to the
maximum extent possible, encode both layers at the same time and with the same presentation
time. [i.e. if "spatial scaling" is used, the enhancement layer may not have the same frame rate
as the base layer, however, whenever the presentation times of the two layers coincide, they
are coded together with the same timestamps]. Therefore, the encoder will encode all streams
bearing the same synchronization information.)

The Standard fails to disclose the system may utilize more then one extension stream so
that the information processing apparatus further comprises an apparatus wherein when any of
synchronization units of the first to n-th extension streams corresponding to synchronization
units of the base stream are present, the encoding means encodes, among the first to n-th

extension streams, the extension stream having the present synchronization units and the base

stream. In the same field of endeavor, *Bruls* discloses the system may utilize more then one

extension stream so that the information processing apparatus further comprises an apparatus

wherein when any of synchronization units of the first to n-th extension streams corresponding

to synchronization units of the base stream are present, the encoding means encodes, among

the first to n-th extension streams, the extension stream having the present synchronization

units and the base stream (Paragraph 0003).

Therefore, since the system of *Burls* suggests the use of more then one enhancement

layer and the system of The Standard discloses that only an enhancement layer that matches

the presentation time (i.e. has synchronization units that correspond to the base layer) of the

base layer is encoded for presentation at the same time of that base layer, it would have been

obvious to a person of ordinary skill in the art at the time of the invention to implement the

multiple enhancement layers of *Burls* into the system of The Standard by causing the encoder

to encode the base layer and any corresponding enhancement layers for decoding at the same

presentation time. The motive to combine is to allow the use of more the one enhancement

layer, allowing for fine-grained enhancement of transmitted media.

Regarding claims 39, 42 and 43, *The Standard* discloses an information processing

apparatus comprising, an information processing method implemented using an information

processing apparatus having at least a decoding part, comprising and a non-transitory computer

readable medium having stored thereon a program that when executed by the computer causes

the computer to execute an information processing method comprising:

   a. Input means for and an input step of inputting an entire stream that includes at least

   one of TS packets forming a base stream (Pages xi-xix, 3-6, 10-13, 21-22, 43-50). (The

system of The Standard discloses a system for the encoding and transport of MPEG

data [Pages xi-xix]. The system operates by receiving an incoming video stream [i.e.

input stream] [See Fig. 0-1, "Video data" and "Audio Data", Page xi], encoding the

stream into one or more packetized elementary streams ["PES"] associated with the

input stream [Pages xi-xii], packetizing the one or more PES into a transport stream

["TS"] [Fig. 0-1, "Packetizer" and "Mux", Page xii] [See also Pages xvi-xix, particularly

sections 0.4, 0.7 and 0.8], transmitting the TS across a network to a decoder [Page xii],

receiving the TS at the decoder, separating out the input stream by de-multiplexing the

PES's associated with the input stream, decoding the input stream and providing the

decoded video/audio for output [Pages xii-xiii, Particularly Fig. 0-2] [See also Pages xvi-

xix, Particularly Sections 0.4, 0.7 and 0.8].)

b. Selecting means for and a selecting step of selecting a specific type of TS packets

based on a first ID used to identify stream (Pages 10-17, 22 and 43-50). (The system of

The Standard further discloses that each packetized elementary stream is assigned a

packet identifier ["PID"] [i.e. IDs] that is used to uniquely identify that stream in the

transport stream [TS] [See Particularly Section 2.4.1, Page 10 and "PID", Page 22].

Within each TS, a program association table and program map table are periodically

transmitted in a special PES packets [Pages 43-50, Particularly Section 4.3.3 on Pages

43-44]. The program association table associates a particular program with a program

map table ID, and the program map table associates the PIDs of the elementary streams

that make up a program with the program map table ID [Pages 43-50] and identifies the

type of processable stream [Page 63, Table 2-36]. The program association table is the

used by the channel specific decoder, which de-multiplexes a particular

channel/program [i.e. a "stream"] by determining the associated elementary streams
using the program map table and extracting them from the TS for decoding [Pages xiii
and Pages 48-49].)

c. Decoding means for and a decoding step of decoding the TS packets selected by the
selecting means (Pages xiii and Pages 48-49 - See (b), Supra).

The Standard fails to disclose the use of extensible enhancement layers, each
associated with a separate ID so as to create an input means for and an input step of inputting
an entire stream that includes at least one of TS packets forming a base stream and TS packets
forming each of first to n-th extension streams having extensibility for the base stream and a
selecting means for selecting, from the entire stream, TS packets based on an ID respectively
distinguishing the base stream from the first to n-th extension streams, the first ID being stored
in each of the TS packets input by the input means. In the same field of endeavor, *Bruls*
discloses the use of extensible enhancement layers, each associated with a separate ID so as
to create an input means for and an input step of inputting an entire stream that includes at least
one of TS packets forming a base stream and TS packets forming each of first to n-th extension
streams having extensibility for the base stream and a selecting means for selecting, from the
entire stream, processable TS packets based on an ID respectively distinguishing the base
stream from the first to n-th extension streams, and a predetermined condition set in advance,
the first ID being stored in each of the TS packets input by the input means (Paragraphs 0031,
0039, and 0042). (The system of *Bruls* discloses the use of a base and one or more extensible
enhancement layers for encoding and transporting programs using MPEG encoding techniques
[Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls* further discloses that the system

uses a separate PID to identify the base and enhancement layers [Paragraph 0042] and that the base and enhancement layers may be a part of different transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible enhancement layers, and The Standard discloses the use of an adding and packetizing means for adding identifier information to a stream and packetizing the stream it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the extensible layers of *Bruls* with the system of *The Standard* by implementing one or more extensible enhancement layers, each identified with a separate ID. The motive to combine is to allow the system of *The Standard* to support extensible layered video, which allows increased flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*, Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of the invention, it is unclear if Paragraph 0003 is a part of the background of the invention, therefore constituting a separate disclosure.) In the same field of endeavor, The Background of *Bruls* discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple extension layers of The Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting more then one extension stream as a separate elementary stream with its own stream ID. The motive to combine is to allow enhanced flexibility by providing multiple extension streams so that endpoints can decode one or more of the extension streams to obtain incremental quality increases.

The Standard as modified by *Burls* fails to disclose the use of a priority field, as opposed

to an ID field, to de-multiplex base and enhancement layer packets based on the ability of a

particular device to decode the base and enhancement layers, such that the information

processing apparatus and method further comprise a selecting means for and a selecting step

of selecting, from the entire stream, processable TS packets based on a first ID used to identify

the entire stream, transport priority information indicating priority and respectively distinguishing

the base stream from the first to n-th extension streams, and a predetermined condition set in

advance, the first ID and the transport priority information being stored in each of the TS

packets input by the input means. In the same field of endeavor, *Yahata* discloses the use of a

priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets

based on the ability of a particular device to decode the base and enhancement layers, such

that the information processing apparatus and method further comprise a selecting means for

and a selecting step of selecting, from the entire stream, processable TS packets based on a

first ID used to identify the entire stream, transport priority information indicating priority and

respectively distinguishing the base stream from the first to n-th extension streams, and a

predetermined condition set in advance, the first ID and the transport priority information being

stored in each of the TS packets input by the input means (Paragraphs 0298 and 0326-0338).

(The system of *Yahata* discloses a system that uses a priority bit to de-multiplex a base frame

for a DVD encoding from an extension/enhancement layer frame used for the enhancement

information for blu-ray encoding [Paragraphs 0326-0335]. The priority bit is used to separate the

base layer and the level 1 enhancement layer [i.e. Base+Level-EXT] used for DVD transmission

from the level 2 enhancement layer [i.e. Level 2-EXT] [Paragraph 0326]. *Yahata* further

discloses that the system combines the base layer and the first enhancement layer in view of

the "widespread use" of devices that support the base layer and the first enhancement layer

[Paragraph 0298] and that each decoder may select an appropriate stream based on its capabilities [Paragraphs 0302-0310 and 0342-0352] [For example, a HD player will look at the program table [Paragraph 0303 and Fig. 38, TS_program_map] in order to determine which of the streams are of the appropriate type and will then decode both the base and the first and second enhancement layer, while a standard DVD player will decode only the base and the first enhancement layer streams [Paragraphs 0294-0302]. Finally, *Yahada* discloses that the decoders only de-multiplex layers that they are capable of decoding based on the predetermined condition of the type of decoder present in the system [Paragraphs 0288-0293].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and enhancement layers that are contained in elementary streams along with the selective decoding of only compatible streams and the system of *The Standard* as modified by *Burlsi* suggests that all base and enhancement layers may be transmitted in separate elementary streams and the generation of appropriate stream identifier information and subsequent packetizing of the outgoing streams, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the layered priority separation of *Yahata* with the separate base and enhancement layers of *The Standard* as modified by *Burlsi* to form a system that transports and de-multiplexes a base layer and one or more transport layers based on a priority field and the supported number of enhancement layers. (i.e. The system of *Yahata* discloses the use of the priority indicator of a transport stream to separate a base layer and a first level enhancement layer from a second level enhancement layer [*Yahata*, Paragraph 0326]. The reason that the base layer [i.e. Base] and the first level enhancement layer [i.e. Level1-EXT] are allowed to remain together in one transport stream is that the system of *Yahata* is directed towards DVD decoders, which almost universally support the combination of the base and first extension layer [*Yahata*, Paragraph 0298]. However, in a system, such as that taught by *The Standard* as

modified by *Burlsi,* the types of systems supported are more diverse, and unlike a traditional

DVD distribution system, the base and first enhancement layer may be separately transmitted in

two different transport streams [*Burlsi,* Paragraph 0042] and be decoded by devices that

support only the base stream or the base and one or more enhancement streams [See For

Example, *Burlsi,* Paragraph 0044- Showing both SD and HD TVs]. Therefore, a person of

ordinary skill in the art at the time of the invention would have recognized that the teachings of

Yahata could be applied to the separate base and enhancement layer transport streams of *The*

Standard as modified by *Burlsi* by using a priority indicator to separate one or more of the base

and enhancement layers all using the same PID.) The motive to combine is provided by *Yahata*

and is to allow the convenient de-multiplexing of the desired layers at diverse decoded types,

each supporting the base layer and zero or more enhancement layers in accordance with the

decoder capability.

In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base

system in which separated base and enhancement MPEG transport streams are transmitted to

devices which decode the base layer and one or more of the enhancement layers. The system

of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-

multiplexing base and enhancement layers in which the layers desired to be separated are

assigned unique priority indicators but the same PID and are de-multiplexed based on the

priority indicator and decoder compatibility. Therefore, the use of a priority indicator to separate

the MPEG base and enhancement layer transport streams of *The Standard* as modified by

Burls into compatible and non-compatible streams would have been obvious to a person of

ordinary skill in the art at the time of the invention, in view of its use to separate MPEG transport

streams into compatible and non-compatible streams in the system of *Yahata,* and would have

produced the predictable result of a system that separates one or more compatible base and

enhancement layers by using a priority indicator.

Regarding claim 44, *The Standard* discloses a non-transitory computer readable

medium having stored thereon a data structure of an entire stream to be played back by a

computer, wherein the entire stream includes at least one of a base stream and first to n-th

extension streams having extensibility for the base stream, the entire stream includes:

a. TS packets forming the base stream (Pages xi-xix, 3-6, 10-13, 21-22,43-50). (The

system of The Standard discloses a system for the encoding and transport of MPEG

data [Pages xi-xix]. The system operates by receiving an incoming video stream [i.e.

input stream] [See Fig. 0-1, "Video data" and "Audio Data", Page xi], encoding the

stream into one or more packetized elementary streams ["PES"] associated with the

input stream [Pages xi-xii] [See also Page 35, Table 2-19, "ISO/IEC 12818-3 … audio

steam number" - Showing the elementary streams may be part of a layered audio

architecture], packetizing the one or more PES into a transport stream ["TS"] [Fig. 0-1,

"Packetizer" and "Mux", Page xii] [See also Pages xvi-xix, particularly sections 0.4, 0.7

and 0.8], transmitting the TS across a network to a decoder [Page xii], receiving the TS

at the decoder, separating out the input stream by de-multiplexing the PES's associated

with the input stream, decoding the input stream and providing the decoded video/audio

for output [Pages xii-xiii, Particularly Fig. 0-2] [See also Pages xvi-xix, Particularly

Sections 0.4, 0.7 and 0.8].)

b. TS packets forming, when any of synchronization units an extension stream

corresponding to synchronization units of the base stream are present, the extension

stream (Fig. 0-1, "Packetizer" and "Mux", Page xii, and "PID", Page 22 and Pages 80-

81, Section 2.7.6). (The Standard discloses that all of the individual streams, including

the streams bearing the program association table and program map table are

packetized, including adding the PID to the packet, and multiplexed into a single TS [Fig.

0-1, "Packetizer" and "Mux", Page xii, Pages 22 and 43-46]. The system of The

Standard Discloses further discloses that the system may use a base layer and a single

enhancement layer [Pages 80-81, Section 2.7.6]. During the course of encoding the

base and enhancement layers if spatial scalable coding is used then the encoder must,

to the maximum extent possible, encode both layers at the same time and with the same

presentation time. [i.e. if "spatial scaling" is used, the enhancement layer may not have

the same frame rate as the base layer, however, whenever the presentation times of the

two layers coincide, they are coded together with the same timestamps]. Therefore, the

encoder will encode all streams bearing the same synchronization information.)

c. A header of each of the TS packets includes an ID (Fig. 0-1, "Packetizer" and "Mux",

Page xii, and "PID", Page 22). (The Standard discloses that all of the individual streams,

including the streams bearing the program association table and program map table are

packetized, including adding the PID to the packet, and multiplexed into a single TS [Fig.

0-1, "Packetizer" and "Mux", Page xii, Pages 22 and 43-46].)

The Standard fails to disclose the use of more then one extensible enhancement layers,

each associated with a separate ID so as to create a stream further comprising TS packets

forming, when any of synchronization units of the first to n-th extension streams corresponding

to synchronization units of the base stream are present, among the first to n-th extension

streams, the extension stream having the present synchronization units and a header of each of

the TS packets forming the base stream and the TS packets forming each of the first to n-th

extension streams includes a first ID for respectively distinguishing the base stream from the

first to n-th extension streams. In the same field of endeavor, *Bruls* discloses the use of more

then one extensible enhancement layers, each associated with a separate ID so as to create a

stream further comprising TS packets forming, when any of synchronization units of the first to

n-th extension streams corresponding to synchronization units of the base stream are present,

among the first to n-th extension streams, the extension stream having the present

synchronization units and a header of each of the TS packets forming the base stream and the

TS packets forming each of the first to n-th extension streams includes a first ID for respectively

distinguishing the base stream from the first to n-th extension streams (Paragraphs 0031, 0039,

and 0042). (The system of *Bruls* discloses the use of a base and one or more extensible

enhancement layers for encoding and transporting programs using MPEG encoding techniques

[Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls* further discloses that the system

uses a separate PID to identify the base and enhancement layers [Paragraph 0042] and that the

base and enhancement layers may be a part of different transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible

enhancement layers, and The Standard discloses the use of an adding and packetizing means

for adding identifier information to a stream and packetizing the stream it would have been

obvious to a person of ordinary skill in the art at the time of the invention to combine the

extensible layers of *Bruls* with the system of *The Standard* by implementing one or more

extensible enhancement layers, each identified with a separate ID. The motive to combine is to

allow the system of *The Standard* to support extensible layered video, which allows increased

flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*,

Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of the invention, it is unclear if Paragraph 0003 is a part of the background of the invention, therefore constituting a separate disclosure.) In the same field of endeavor, The Background of *Bruls* discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple extension layers of The Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting more then one extension stream as a separate elementary stream with its own stream ID. The motive to combine is to allow enhanced flexibility by providing multiple extension streams so that endpoints can decode one or more of the extension streams to obtain incremental quality increases.

The Standard as modified by *Burls* fails to disclose the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets, such that the header of each of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams further includes a first ID used to identify the entire stream and a transport priority information indicating priority and respectively distinguishing the base stream from the first to n-th extension stream. In the same field of endeavor, *Yahata* discloses the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets, such that the information processing apparatus and method further comprises adding transport priority information that indicates priority and respectively distinguishes the base stream from the first to n-th extension streams and packetizing the base stream and the first to n-th extension streams, to which the transport priority information is added by the adding

means, into TS packets (Paragraphs 0298 and 0326-0338). (The system of *Yahata* discloses a

system that uses a priority bit to de-multiplex a base frame for a DVD encoding from an

extension/enhancement layer frame used for the enhancement information for blu-ray encoding

[Paragraphs 0326-0335]. The priority bit is used to separate the base layer and the level 1

enhancement layer [i.e. Base+Level-EXT] used for DVD transmission from the level 2

enhancement layer that share the same PID [i.e. Level 2-EXT] [Paragraphs 0326]. *Yahata*

further discloses that the system combines the base layer and the first enhancement layer in

view of the "widespread use" of devices that support the base layer and the first enhancement

layer [Paragraph 0298] and that each decoder may select an appropriate stream based on its

capabilities [Paragraphs 0302-0310 and 0342-0352] [For example, a HD player will look at the

program table [Paragraph 0303 and Fig. 38, TS_program_map] in order to determine which of

the streams are of the appropriate type and will then decode both the base and the first and

second enhancement layer, while a standard DVD player will decode only the base and the first

enhancement layer streams [Paragraphs 0294-0302].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and

enhancement layers encoded with the same PID and the system of *The Standard* as modified

by *Burlsi* suggests that all base and enhancement layers may be transmitted in separate

elementary streams and the generation of appropriate stream identifier information and

subsequent packetizing of the outgoing streams, it would have been obvious to a person of

ordinary skill in the art at the time of the invention to combine the layered priority separation of

Yahata with the separate base and enhancement layers of *The Standard* as modified by *Burlsi*

to form a system that transports and de-multiplexes a base layer and one or more transport

layers based on a priority field and the supported number of enhancement layers. (i.e. The

system of *Yahata* discloses the use of the priority indicator of a transport stream to separate a

base layer and a first level enhancement layer from a second level enhancement layer [*Yahata*, Paragraph 0326]. The reason that the base layer [i.e. Base] and the first level enhancement layer [i.e. Level1-EXT] are allowed to remain together in one transport stream is that the system of *Yahata* is directed towards DVD decoders, which almost universally support the combination of the base and first extension layer [*Yahata*, Paragraph 0298]. However, in a system, such as that taught by *The Standard* as modified by *Burlsi,* the types of systems supported are more diverse, and unlike a traditional DVD distribution system, the base and first enhancement layer may be separately transmitted in two different transport streams [*Burlsi*, Paragraph 0042] and be decoded by devices that support only the base stream or the base and one or more enhancement streams [See For Example, *Burlsi*, Paragraph 0044- Showing both SD and HD TVs]. Therefore, a person of ordinary skill in the art at the time of the invention would have recognized that the teachings of *Yahata* could be applied to the separate base and enhancement layer transport streams of *The Standard* as modified by *Burlsi* by using a priority indicator to separate one or more of the base and enhancement layers all using the same PID.) The motive to combine is provided by *Yahata* and is to allow the convenient de-multiplexing of the desired layers at diverse decoded types, each supporting the base layer and zero or more enhancement layers in accordance with the decoder capability.

In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base system in which separated base and enhancement MPEG transport streams are transmitted to devices which decode the base layer and one or more of the enhancement layers. The system of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-multiplexing base and enhancement layers in which the layers desired to be separated are assigned unique priority indicators but the same PID and are de-multiplexed based on the priority indicator and decoder compatibility. Therefore, the use of a priority indicator to separate

the MPEG base and enhancement layer transport streams of *The Standard* as modified by

Burls into compatible and non-compatible streams would have been obvious to a person of

ordinary skill in the art at the time of the invention, in view of its use to separate MPEG transport

streams into compatible and non-compatible streams in the system of *Yahata*, and would have

produced the predictable result of a system that separates one or more compatible base and

enhancement layers by using a priority indicator.

Regarding claims 47, 51 and 52 *The Standard* discloses an information processing

apparatus comprising, an information processing method implemented using an information

processing apparatus having at least encoding and packetizing parts, comprising and A non-

transitory computer readable medium having stored thereon a program that when executed by

the computer causes the computer to execute an information processing method comprising:

a. Encoding means for and an encoding step of encoding at least a base stream of an

entire stream that may include the base stream (Pages xi-xix, 3-6, 10-13, 21-22,43-50).

(The system of The Standard discloses a system for the encoding and transport of

MPEG data [Pages xi-xix]. The system operates by receiving an incoming video stream

[i.e. input stream] [See Fig. 0-1, "Video data" and "Audio Data", Page xi], encoding the

stream into one or more packetized elementary streams ["PES"] associated with the

input stream [Pages xi-xii] [See also Page 35, Table 2-19, "ISO/IEC 12818-3 … audio

steam number" - Showing the elementary streams may be part of a layered audio

architecture], packetizing the one or more PES into a transport stream ["TS"] [Fig. 0-1,

"Packetizer" and "Mux", Page xii] [See also Pages xvi-xix, particularly sections 0.4, 0.7

and 0.8], transmitting the TS across a network to a decoder [Page xii], receiving the TS

at the decoder, separating out the input stream by de-multiplexing the PES's associated

with the input stream, decoding the input stream and providing the decoded video/audio

for output [Pages xii-xiii, Particularly Fig. 0-2] [See also Pages xvi-xix, Particularly

Sections 0.4, 0.7 and 0.8].)

b. First adding means for and a first adding step of adding a same first ID to the stream

encoded by the encoding means among the base stream, the first ID identifying the base

stream (Fig. 0-1, "Packetizer" and "Mux", Page xii, and "PID", Page 22). (The Standard

discloses that the header of each packet of the PES bears the PID associated with that

elementary stream).

c. A packetizing means for and a packetizing step of packetizing the base stream, to

which the first ID information is added by the first adding means into TS packets (Fig. 0-

1, "Packetizer" and "Mux", Page xii, and "PID", Page 22). (The Standard discloses that

all of the individual streams, including the streams bearing the program association table

and program map table are packetized, including adding the PID to the packet, and

multiplexed into a single TS [Fig. 0-1, "Packetizer" and "Mux", Page xii, Pages 22 and

43-46].)

The Standard fails to disclose the use of more then one extensible enhancement layers,

each associated with a separate ID such that the encoding means for and an encoding step of

encoding further comprises at least a base stream of an entire stream that may include the base

stream and first to n-th extension streams having extensibility for the base stream and a

packetizing means for and a packetizing step of packetizing the base stream and the first to n-th

extension streams, to which the first ID are added by the first adding means into TS packets. In

the same field of endeavor, *Bruls* discloses the use of more then one extensible enhancement layers, each associated with a separate ID such that the encoding means for and an encoding step of encoding further comprises at least a base stream of an entire stream that may include the base stream and first to n-th extension streams having extensibility for the base stream and a packetizing means for and a packetizing step of packetizing the base stream and the first to n-th extension streams, to which the first ID are added by the first adding means into TS packets (Paragraphs 0031, 0039, and 0042). (The system of *Bruls* discloses the use of a base and one or more extensible enhancement layers for encoding and transporting programs using MPEG encoding techniques [Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls* further discloses that the system uses a separate PID to identify the base and enhancement layers [Paragraph 0042] and that the base and enhancement layers may be a part of different transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible enhancement layers, and The Standard discloses the use of an adding and packetizing means for adding identifier information to a stream and packetizing the stream it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the extensible layers of *Bruls* with the system of *The Standard* by implementing one or more extensible enhancement layers, each identified with a separate ID. The motive to combine is to allow the system of *The Standard* to support extensible layered video, which allows increased flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*, Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of the invention, it is unclear if Paragraph 0003 is a part of the background of the invention,

therefore constituting a separate disclosure.) In the same field of endeavor, The Background of *Bruls* discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple extension layers of The Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting more then one extension stream as a separate elementary stream with its own stream ID. The motive to combine is to allow enhanced flexibility by providing multiple extension streams so that endpoints can decode one or more of the extension streams to obtain incremental quality increases.

The Standard as modified by *Burls* fails to disclose the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets that are a part of the same stream with a common ID, such that the first adding means for and a first adding step of further comprises adding a same first ID to the stream encoded by the encoding means among the base stream and the first to n-th extension streams, the first ID identifying the entire stream and a second adding means for and a second adding step of adding a second ID that differs from the first ID, among the base stream and the first to n-th extension streams, the stream encoded by the encoding means, the second ID respedtively indicating priority and respectively distinguishing the base stream from, the first to n-th extension streams and a packetizing means for and a packetizing step of packetizing the base stream and the first to n-th extension streams, to which the first ID and the transport priority information are added by the first adding means and the second adding means, into TS packets. In the same field of endeavor, *Yahata* discloses a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets that are a part of the same stream with a common ID, such that the first adding means for and a

first adding step of further comprises adding a same first ID to the stream encoded by the

encoding means among the base stream and the first to n-th extension streams, the first ID

identifying the entire stream and a second adding means for and a second adding step of

adding a second ID that differs from the first ID, among the base stream and the first to n-th

extension streams, the stream encoded by the encoding means, the second ID respedtively

indicating priority and respectively distinguishing the base stream from, the first to n-th

extension streams and a packetizing means for and a packetizing step of packetizing the base

stream and the first to n-th extension streams, to which the first ID and the transport priority

information are added by the first adding means and the second adding means, into TS packets

(Paragraphs 0298 and 0326-0338). (The system of *Yahata* discloses a system that uses a

priority bit to de-multiplex a base frame for a DVD encoding from an extension/enhancement

layer frame used for the enhancement information for blu-ray encoding [Paragraphs 0326-

0335]. The priority bit is used to separate the base layer and the level 1 enhancement layer [i.e.

Base+Level-EXT] used for DVD transmission from the level 2 enhancement layer [i.e. Level 2-

EXT] that may share the same PID [Paragraph 0306 and 0325-0326]. *Yahata* further discloses

that the system combines the base layer and the first enhancement layer in view of the

"widespread use" of devices that support the base layer and the first enhancement layer [i.e. the

widespread use of traditional DVD style encoders does not require the separation of the base

and the first enhancement layer, as all devices support both layers, so only the second

enhancement layer, used for HD type devices is separated] [Paragraph 0298].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and

enhancement layers that are contained in elementary streams along with the selective decoding

of only compatible streams and the system of *The Standard* as modified by *Burlsi* suggests that

all base and enhancement layers may be transmitted in separate elementary streams and the

generation of appropriate stream identifier information and subsequent packetizing of the outgoing streams, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the layered priority separation of *Yahata* with the separate base and enhancement layers of *The Standard* as modified by *Burlsi* to form a system that transports and de-multiplexes a base layer and one or more transport layers based on a priority field and the supported number of enhancement layers. (i.e. The system of *Yahata* discloses the use of the priority indicator of a transport stream to separate a base layer and a first level enhancement layer from a second level enhancement layer [*Yahata*, Paragraph 0326]. The reason that the base layer [i.e. Base] and the first level enhancement layer [i.e. Level1-EXT] are allowed to remain together in one transport stream is that the system of *Yahata* is directed towards DVD decoders, which almost universally support the combination of the base and first extension layer [*Yahata*, Paragraph 0298]. However, in a system, such as that taught by *The Standard* as modified by *Burlsi,* the types of systems supported are more diverse, and unlike a traditional DVD distribution system, the base and first enhancement layer may be separately transmitted in two different transport streams [*Burlsi*, Paragraph 0042] and be decoded by devices that support only the base stream or the base and one or more enhancement streams [See For Example, *Burlsi*, Paragraph 0044- Showing both SD and HD TVs]. Therefore, a person of ordinary skill in the art at the time of the invention would have recognized that the teachings of *Yahata* could be applied to the separate base and enhancement layer transport streams of *The Standard* as modified by *Burlsi* by using a priority indicator to separate one or more of the base and enhancement layers all using the same PID.) The motive to combine is provided by *Yahata* and is to allow the convenient de-multiplexing of the desired layers at diverse decoded types, each supporting the base layer and zero or more enhancement layers in accordance with the decoder capability.

In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base system in which separated base and enhancement MPEG transport streams are transmitted to devices which decode the base layer and one or more of the enhancement layers. The system of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-multiplexing base and enhancement layers in which the layers desired to be separated are assigned unique priority indicators but the same PID and are de-multiplexed based on the priority indicator. Therefore, the use of a priority indicator to separate the MPEG base and enhancement layer transport streams of *The Standard* as modified by *Burls* would have been obvious to a person of ordinary skill in the art at the time of the invention, in view of its use to separate MPEG transport streams in the system of *Yahata*, and would have produced the predictable result of a system that separates one or more base and enhancement layers by using a priority indicator.

Regarding claim 49, The Standard discloses an information processing apparatus, wherein when any of synchronization units of an extension stream corresponding to synchronization units of the base stream are present, the encoding means encodes, the extension stream and the base stream (Pages 80-81, Section 2.7.6). (The system of The Standard Discloses that if scalable coding is used, with spatial scaling, the encoder must, to the maximum extent possible, encode both layers at the same time and with the same presentation time. [i.e. if "spatial scaling" is used, the enhancement layer may not have the same frame rate as the base layer, however, whenever the presentation times of the two layers coincide, they are coded together with the same timestamps]. Therefore, the encoder will encode all streams bearing the same synchronization information.)

The Standard fails to disclose the system may utilize more then one extension stream so that the information processing apparatus further comprises an apparatus wherein when any of

synchronization units of the first to n-th extension streams corresponding to synchronization units of the base stream are present, the encoding means encodes, among the first to n-th extension streams, the extension stream having the present synchronization units and the base stream. In the same field of endeavor, *Bruls* discloses the system may utilize more then one extension stream so that the information processing apparatus further comprises an apparatus wherein when any of synchronization units of the first to n-th extension streams corresponding to synchronization units of the base stream are present, the encoding means encodes, among the first to n-th extension streams, the extension stream having the present synchronization units and the base stream (Paragraph 0003).

Therefore, since the system of *Burls* suggests the use of more then one enhancement layer and the system of The Standard discloses that only an enhancement layer that matches the presentation time (i.e. has synchronization units that correspond to the base layer) of the base layer is encoded for presentation at the same time of that base layer, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple enhancement layers of *Burls* into the system of The Standard by causing the encoder to encode the base layer and any corresponding enhancement layers for decoding at the same presentation time. The motive to combine is to allow the use of more the one enhancement layer, allowing for fine-grained enhancement of transmitted media.

Regarding claims 53, 56 and 57, *The Standard* discloses an information processing apparatus comprising, an information processing method implemented using an information processing apparatus having at least a decoding part, comprising and a non-transitory computer readable medium having stored thereon a program that when executed by the computer causes the computer to execute an information processing method comprising:

a. Input means for and an input step of inputting an entire stream that includes at least one of TS packets forming a base stream (Pages xi-xix, 3-6, 10-13, 21-22, 43-50). (The system of The Standard discloses a system for the encoding and transport of MPEG data [Pages xi-xix]. The system operates by receiving an incoming video stream [i.e. input stream] [See Fig. 0-1, "Video data" and "Audio Data", Page xi], encoding the stream into one or more packetized elementary streams ["PES"] associated with the input stream [Pages xi-xii], packetizing the one or more PES into a transport stream ["TS"] [Fig. 0-1, "Packetizer" and "Mux", Page xii] [See also Pages xvi-xix, particularly sections 0.4, 0.7 and 0.8], transmitting the TS across a network to a decoder [Page xii], receiving the TS at the decoder, separating out the input stream by de-multiplexing the PES's associated with the input stream, decoding the input stream and providing the decoded video/audio for output [Pages xii-xiii, Particularly Fig. 0-2] [See also Pages xvi-xix, Particularly Sections 0.4, 0.7 and 0.8].)

b. Selecting means for and a selecting step of selecting a specific type of TS packets based on a first ID used to identify stream (Pages 10-17, 22 and 43-50). (The system of *The Standard* further discloses that each packetized elementary stream is assigned a packet identifier ["PID"] [i.e. IDs] that is used to uniquely identify that stream in the transport stream [TS] [See Particularly Section 2.4.1, Page 10 and "PID", Page 22]. Within each TS, a program association table and program map table are periodically transmitted in a special PES packets [Pages 43-50, Particularly Section 4.3.3 on Pages 43-44]. The program association table associates a particular program with a program map table ID, and the program map table associates the PIDs of the elementary streams that make up a program with the program map table ID [Pages 43-50] and identifies the

type of processable stream [Page 63, Table 2-36]. The program association table is the

used by the channel specific decoder, which de-multiplexes a particular

channel/program [i.e. a "stream"] by determining the associated elementary streams

using the program map table and extracting them from the TS for decoding [Pages xiii

and Pages 48-49].)

c. Decoding means for and a decoding step of decoding the TS packets selected by the

selecting means (Pages xiii and Pages 48-49 - See (b), Supra).

The Standard fails to disclose the use of extensible enhancement layers, each

associated with a separate ID so as to create an input means for and an input step of inputting

an entire stream that includes at least one of TS packets forming a base stream and TS packets

forming each of first to n-th extension streams having extensibility for the base stream and a

selecting means for selecting, from the entire stream, TS packets based on an ID respectively

distinguishing the base stream from the first to n-th extension streams, the first ID being stored

in each of the TS packets input by the input means. In the same field of endeavor, *Bruls*

discloses the use of extensible enhancement layers, each associated with a separate ID so as

to create an input means for and an input step of inputting an entire stream that includes at least

one of TS packets forming a base stream and TS packets forming each of first to n-th extension

streams having extensibility for the base stream and a selecting means for selecting, from the

entire stream, processable TS packets based on the first ID respectively distinguishing the base

stream from the first to n-th extension streams, and a predetermined condition set in advance,

the first ID being stored in each of the TS packets input by the input means (Paragraphs 0031,

0039, and 0042). (The system of *Bruls* discloses the use of a base and one or more extensible

enhancement layers for encoding and transporting programs using MPEG encoding techniques [Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls* further discloses that the system uses a separate PID to identify the base and enhancement layers [Paragraph 0042] and that the base and enhancement layers may be a part of different transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible enhancement layers, and The Standard discloses the use of an adding and packetizing means for adding identifier information to a stream and packetizing the stream it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the extensible layers of *Bruls* with the system of *The Standard* by implementing one or more extensible enhancement layers, each identified with a separate ID. The motive to combine is to allow the system of *The Standard* to support extensible layered video, which allows increased flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*, Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of the invention, it is unclear if Paragraph 0003 is a part of the background of the invention, therefore constituting a separate disclosure.) In the same field of endeavor, The Background of *Bruls* discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple extension layers of The Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting more then one extension stream as a separate elementary stream with its own stream ID. The motive to combine is to allow enhanced flexibility by providing multiple extension streams so

that endpoints can decode one or more of the extension streams to obtain incremental quality increases.

The Standard as modified by Burls fails to disclose the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets based on the ability of a particular device to decode the base and enhancement layers, such that the information processing apparatus and method further comprise a selecting means for and a selecting step of selecting, from the entire stream, processable TS packets based on a first ID used to identify the entire stream, a second ID respectively distinguishing the base stream from the first to n-th extension streams, and a predetermined condition set in advance, the first ID and the a second ID different from each other and being stored in each of the TS packets input by the input means. In the same field of endeavor, Yahata discloses the use of a priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets based on the ability of a particular device to decode the base and enhancement layers, such that the information processing apparatus and method further comprise a selecting means for and a selecting step of selecting, from the entire stream, processable TS packets based on a first ID used to identify the entire stream, a second ID respectively distinguishing the base stream from the first to n-th extension streams, and a predetermined condition set in advance, the first ID and the a second ID different from each other and being stored in each of the TS packets input by the input means (Paragraphs 0298 and 0326-0338). (The system of Yahata discloses a system that uses a priority bit to de-multiplex a base frame for a DVD encoding from an extension/enhancement layer frame used for the enhancement information for blu-ray encoding [Paragraphs 0326-0335]. The priority bit is used to separate the base layer and the level 1 enhancement layer [i.e. Base+Level-EXT] used for DVD transmission from the level 2 enhancement layer [i.e. Level 2-EXT] [Paragraph 0326]. Yahata further discloses that the system combines the base layer and

the first enhancement layer in view of the "widespread use" of devices that support the base

layer and the first enhancement layer [Paragraph 0298] and that each decoder may select an

appropriate stream based on its capabilities [Paragraphs 0302-0310 and 0342-0352] [For

example, a HD player will look at the program table [Paragraph 0303 and Fig. 38,

TS_program_map] in order to determine which of the streams are of the appropriate type and

will then decode both the base and the first and second enhancement layer, while a standard

DVD player will decode only the base and the first enhancement layer streams [Paragraphs

0294-0302]. Finally, *Yahada* discloses that the decoders only de-multiplex layers that they are

capable of decoding based on the predetermined condition of the type of decoder present in the

system [Paragraphs 0288-0293].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and

enhancement layers that are contained in elementary streams along with the selective decoding

of only compatible streams and the system of *The Standard* as modified by *Burlsi* suggests that

all base and enhancement layers may be transmitted in separate elementary streams and the

generation of appropriate stream identifier information and subsequent packetizing of the

outgoing streams, it would have been obvious to a person of ordinary skill in the art at the time

of the invention to combine the layered priority separation of *Yahata* with the separate base and

enhancement layers of *The Standard* as modified by *Burlsi* to form a system that transports and

de-multiplexes a base layer and one or more transport layers based on a priority field and the

supported number of enhancement layers. (i.e. The system of *Yahata* discloses the use of the

priority indicator of a transport stream to separate a base layer and a first level enhancement

layer from a second level enhancement layer [*Yahata*, Paragraph 0326]. The reason that the

base layer [i.e. Base] and the first level enhancement layer [i.e. Level1-EXT] are allowed to

remain together in one transport stream is that the system of *Yahata* is directed towards DVD

decoders, which almost universally support the combination of the base and first extension layer [*Yahata*, Paragraph 0298]. However, in a system, such as that taught by *The Standard* as modified by *Burlsi,* the types of systems supported are more diverse, and unlike a traditional DVD distribution system, the base and first enhancement layer may be separately transmitted in two different transport streams [*Burlsi*, Paragraph 0042] and be decoded by devices that support only the base stream or the base and one or more enhancement streams [See For Example, *Burlsi*, Paragraph 0044- Showing both SD and HD TVs]. Therefore, a person of ordinary skill in the art at the time of the invention would have recognized that the teachings of *Yahata* could be applied to the separate base and enhancement layer transport streams of *The Standard* as modified by *Burlsi* by using a priority indicator to separate one or more of the base and enhancement layers all using the same PID.) The motive to combine is provided by *Yahata* and is to allow the convenient de-multiplexing of the desired layers at diverse decoded types, each supporting the base layer and zero or more enhancement layers in accordance with the decoder capability.

In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base system in which separated base and enhancement MPEG transport streams are transmitted to devices which decode the base layer and one or more of the enhancement layers. The system of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-multiplexing base and enhancement layers in which the layers desired to be separated are assigned unique priority indicators but the same PID and are de-multiplexed based on the priority indicator and decoder compatibility. Therefore, the use of a priority indicator to separate the MPEG base and enhancement layer transport streams of *The Standard* as modified by *Burls* into compatible and non-compatible streams would have been obvious to a person of ordinary skill in the art at the time of the invention, in view of its use to separate MPEG transport

streams into compatible and non-compatible streams in the system of *Yahata*, and would have produced the predictable result of a system that separates one or more compatible base and enhancement layers by using a priority indicator.

Regarding claim 58, *The Standard* discloses a non-transitory computer readable medium having stored thereon a data structure of an entire stream to be played back by a computer, wherein the entire stream includes at least one of a base stream and first to n-th extension streams having extensibility for the base stream, the entire stream includes:

a. TS packets forming the base stream (Pages xi-xix, 3-6, 10-13, 21-22,43-50). (The system of The Standard discloses a system for the encoding and transport of MPEG data [Pages xi-xix]. The system operates by receiving an incoming video stream [i.e. input stream] [See Fig. 0-1, "Video data" and "Audio Data", Page xi], encoding the stream into one or more packetized elementary streams ["PES"] associated with the input stream [Pages xi-xii] [See also Page 35, Table 2-19, "ISO/IEC 12818-3 … audio steam number" - Showing the elementary streams may be part of a layered audio architecture], packetizing the one or more PES into a transport stream ["TS"] [Fig. 0-1, "Packetizer" and "Mux", Page xii] [See also Pages xvi-xix, particularly sections 0.4, 0.7 and 0.8], transmitting the TS across a network to a decoder [Page xii], receiving the TS at the decoder, separating out the input stream by de-multiplexing the PES's associated with the input stream, decoding the input stream and providing the decoded video/audio for output [Pages xii-xiii, Particularly Fig. 0-2] [See also Pages xvi-xix, Particularly Sections 0.4, 0.7 and 0.8].)

b. TS packets forming, when any of synchronization units an extension stream

corresponding to synchronization units of the base stream are present, the extension

stream (Fig. 0-1, "Packetizer" and "Mux", Page xii, and "PID", Page 22 and Pages 80-

81, Section 2.7.6). (The Standard discloses that all of the individual streams, including

the streams bearing the program association table and program map table are

packetized, including adding the PID to the packet, and multiplexed into a single TS [Fig.

0-1, "Packetizer" and "Mux", Page xii, Pages 22 and 43-46]. The system of The

Standard Discloses further discloses that the system may use a base layer and a single

enhancement layer [Pages 80-81, Section 2.7.6]. During the course of encoding the

base and enhancement layers if spatial scalable coding is used then the encoder must,

to the maximum extent possible, encode both layers at the same time and with the same

presentation time. [i.e. if "spatial scaling" is used, the enhancement layer may not have

the same frame rate as the base layer, however, whenever the presentation times of the

two layers coincide, they are coded together with the same timestamps]. Therefore, the

encoder will encode all streams bearing the same synchronization information.)

c. A header of each of the TS packets includes an ID (Fig. 0-1, "Packetizer" and "Mux",

Page xii, and "PID", Page 22). (The Standard discloses that all of the individual streams,

including the streams bearing the program association table and program map table are

packetized, including adding the PID to the packet, and multiplexed into a single TS [Fig.

0-1, "Packetizer" and "Mux", Page xii, Pages 22 and 43-46].)

The Standard fails to disclose the use of more then one extensible enhancement layers,

each associated with a separate ID so as to create a stream further comprising TS packets

forming, when any of synchronization units of the first to n-th extension streams corresponding

to synchronization units of the base stream are present, among the first to n-th extension

streams, the extension stream having the present synchronization units and a header of each of

the TS packets forming the base stream and the TS packets forming each of the first to n-th

extension streams includes a first ID for respectively distinguishing the base stream from the

first to n-th extension streams. In the same field of endeavor, *Bruls* discloses the use of more

then one extensible enhancement layers, each associated with a separate ID so as to create a

stream further comprising TS packets forming, when any of synchronization units of the first to

n-th extension streams corresponding to synchronization units of the base stream are present,

among the first to n-th extension streams, the extension stream having the present

synchronization units and a header of each of the TS packets forming the base stream and the

TS packets forming each of the first to n-th extension streams includes a first ID for respectively

distinguishing the base stream from the first to n-th extension streams (Paragraphs 0031, 0039,

and 0042). (The system of *Bruls* discloses the use of a base and one or more extensible

enhancement layers for encoding and transporting programs using MPEG encoding techniques

[Paragraphs 0031 and 0039, See also Paragraph 0003]. *Bruls* further discloses that the system

uses a separate PID to identify the base and enhancement layers [Paragraph 0042] and that the

base and enhancement layers may be a part of different transport streams [Paragraph 0042].)

Therefore, since *Bruls* discloses the use of a base layer and one or more extensible

enhancement layers, and The Standard discloses the use of an adding and packetizing means

for adding identifier information to a stream and packetizing the stream it would have been

obvious to a person of ordinary skill in the art at the time of the invention to combine the

extensible layers of *Bruls* with the system of *The Standard* by implementing one or more

extensible enhancement layers, each identified with a separate ID. The motive to combine is to

allow the system of *The Standard* to support extensible layered video, which allows increased

flexibility and reduced bandwidth requirements for video distribution (See Generally, *Bruls*,

Paragraphs 0006-0014).

Assuming arguendo, that *Bruls* fails to disclose the use of more the one enhancement

layers (i.e. Because *Bruls* is not in standard US format with a clearly identified background of

the invention, it is unclear if Paragraph 0003 is a part of the background of the invention,

therefore constituting a separate disclosure.) In the same field of endeavor, The Background of

Bruls discloses the use of one or more enhancement layers (See Paragraph 0003).

Therefore, since the background of *Bruls* discloses the use of more then one extension

layer (i.e. a first to n-the extension stream), it would have been obvious to a person of ordinary

skill in the art at the time of the invention to implement the multiple extension layers of The

Background of *Bruls* into the teachings of *The Specification* as modified by *Bruls* by transmitting

more then one extension stream as a separate elementary stream with its own stream ID. The

motive to combine is to allow enhanced flexibility by providing multiple extension streams so

that endpoints can decode one or more of the extension streams to obtain incremental quality

increases.

The Standard as modified by *Burls* fails to disclose the use of a priority field, as opposed

to an ID field, to de-multiplex base and enhancement layer packets, such that the header of

each of the TS packets forming the base stream and the TS packets forming each of the first to

n-th extension streams further includes a first ID used to identify the entire stream and a second

ID being different from the first ID and respectively distinguishing the base stream from the first

to n-th extension stream. In the same field of endeavor, *Yahata* discloses disclose the use of a

priority field, as opposed to an ID field, to de-multiplex base and enhancement layer packets,

such that the header of each of the TS packets forming the base stream and the TS packets

forming each of the first to n-th extension streams further includes a first ID used to identify the

entire stream and a second ID being different from the first ID and respectively distinguishing

the base stream from the first to n-th extension stream (Paragraphs 0298 and 0326-0338). (The

system of *Yahata* discloses a system that uses a priority bit to de-multiplex a base frame for a

DVD encoding from an extension/enhancement layer frame used for the enhancement

information for blu-ray encoding [Paragraphs 0326-0335]. The priority bit is used to separate the

base layer and the level 1 enhancement layer [i.e. Base+Level-EXT] used for DVD transmission

from the level 2 enhancement layer that share the same PID [i.e. Level 2-EXT] [Paragraphs

0326]. *Yahata* further discloses that the system combines the base layer and the first

enhancement layer in view of the "widespread use" of devices that support the base layer and

the first enhancement layer [Paragraph 0298] and that each decoder may select an appropriate

stream based on its capabilities [Paragraphs 0302-0310 and 0342-0352] [For example, a HD

player will look at the program table [Paragraph 0303 and Fig. 38, TS_program_map] in order to

determine which of the streams are of the appropriate type and will then decode both the base

and the first and second enhancement layer, while a standard DVD player will decode only the

base and the first enhancement layer streams [Paragraphs 0294-0302].)

Therefore, since *Yahata* suggests the use of a priority indicator to separate base and

enhancement layers encoded with the same PID and the system of *The Standard* as modified

by *Burlsi* suggests that all base and enhancement layers may be transmitted in separate

elementary streams and the generation of appropriate stream identifier information and

subsequent packetizing of the outgoing streams, it would have been obvious to a person of

ordinary skill in the art at the time of the invention to combine the layered priority separation of

Yahata with the separate base and enhancement layers of *The Standard* as modified by *Burlsi*

to form a system that transports and de-multiplexes a base layer and one or more transport

layers based on a priority field and the supported number of enhancement layers. (i.e. The

system of *Yahata* discloses the use of the priority indicator of a transport stream to separate a

base layer and a first level enhancement layer from a second level enhancement layer [*Yahata*,

Paragraph 0326]. The reason that the base layer [i.e. Base] and the first level enhancement

layer [i.e. Level1-EXT] are allowed to remain together in one transport stream is that the system

of *Yahata* is directed towards DVD decoders, which almost universally support the combination

of the base and first extension layer [*Yahata*, Paragraph 0298]. However, in a system, such as

that taught by *The Standard* as modified by *Burlsi,* the types of systems supported are more

diverse, and unlike a traditional DVD distribution system, the base and first enhancement layer

may be separately transmitted in two different transport streams [*Burlsi*, Paragraph 0042] and

be decoded by devices that support only the base stream or the base and one or more

enhancement streams [See For Example, *Burlsi*, Paragraph 0044- Showing both SD and HD

TVs]. Therefore, a person of ordinary skill in the art at the time of the invention would have

recognized that the teachings of *Yahata* could be applied to the separate base and

enhancement layer transport streams of *The Standard* as modified by *Burlsi* by using a priority

indicator to separate one or more of the base and enhancement layers all using the same PID.)

The motive to combine is provided by *Yahata* and is to allow the convenient de-multiplexing of

the desired layers at diverse decoded types, each supporting the base layer and zero or more

enhancement layers in accordance with the decoder capability.

In the alternative, *The Standard* as modified by *Burls* can be viewed as teaching a base

system in which separated base and enhancement MPEG transport streams are transmitted to

devices which decode the base layer and one or more of the enhancement layers. The system

of *Yahata* can be viewed as teaching a known improvement used in MPEG decoders for de-

multiplexing base and enhancement layers in which the layers desired to be separated are

assigned unique priority indicators but the same PID and are de-multiplexed based on the

priority indicator and decoder compatibility. Therefore, the use of a priority indicator to separate

the MPEG base and enhancement layer transport streams of *The Standard* as modified by

Burls into compatible and non-compatible streams would have been obvious to a person of

ordinary skill in the art at the time of the invention, in view of its use to separate MPEG transport

streams into compatible and non-compatible streams in the system of *Yahata*, and would have

produced the predictable result of a system that separates one or more compatible base and

enhancement layers by using a priority indicator.

5.   **Claim 28** is rejected under 35 U.S.C. 103(a) as being unpatentable over The ISO/IEC

13818-1 Standard ("The Standard") (Author Unknown, Generic Coding of Moving Pictures and

Associated Audio: Systems, International Organization for Standardization, Workgroup 11 -

Coding of Moving Pictures and Associate Audio, Pages 1-130, 13 November 1994), *Bruls*, et al.

(US Pre Grant Publication No. 2006/0098937 A1) and *Yahata*, et al. (US Pre Grant Publication

No. 2009/0010614 A1) as applied to claim 27 and further in view of *Kelly*, et al. (US Pre Grant

Publication No. 2002/0191625 A1).

      Regarding claim 28, The Standard fails to disclose a buffering means for buffering, with

respect to the transport priority information, the TS packets selected by the selecting means. In

the same field of endeavor, *Kelly* discloses a buffering means for buffering, with respect to the

transport priority information, the TS packets selected by the selecting means (Figs. 4 and 5 and

Paragraphs 0022-0030). (The system of *Kelly* discloses a system that may receive a base layer

and one or more enhancement layers [Paragraph 0020]. The received streams are buffered and

are then entered into the appropriate array for each of the base and enhancement layers

describing the buffered packets that are to be sent to the buffer for a particular layer [Paragraph

0030]. Therefore, the packets are entered into or removed from the buffer with respect to the later/transport priority information for each layer.)

Therefore, since the system of *Kelly* suggests the use of buffering with respect to the encoding layer and the system of The Standard as modified by *Bruls* and *Yahata* suggests the use of priority information to separate base and enhancement layers, it would have been obvious to combine the layer specific buffering of *Kelly* with the system of The Standard as modified by *Bruls* and *Yahata* by buffering TS packets based on the layer, as taught by *Kelly*, where the layer of a particular TS packet is determined from the priority information associated with that packet, as taught by The Standard as modified by *Bruls* and *Yahata* to form a system that beffers TS packets with respect to priority information. The motive to combine is provided by *Kelly* and is to allow the proper reconstruction of the timing between the base and enhancement layers, even when the layers originate from different sources or travel via different paths (Paragraphs 0008-0010).

6.   **Claims 32, 34, 40, 45, 48, 54 and 59** are rejected under 35 U.S.C. 103(a) as being unpatentable over The ISO/IEC 13818-1 Standard ("The Standard") (Author Unknown, Generic Coding of Moving Pictures and Associated Audio: Systems, International Organization for Standardization, Workgroup 11 - Coding of Moving Pictures and Associate Audio, Pages 1-130, 13 November 1994), *Bruls*, et al. (US Pre Grant Publication No. 2006/0098937 A1) and *Yahata*, et al. (US Pre Grant Publication No. 2009/0010614 A1) as applied to claims 33, 39, 44, 47, 53 and 58 and further in view of *Kim*, et al. (S. Kim, S. Park, Y. Kim, Fine Grain Scalability in MPEG-4 Audio, Audio Engineering Society, 111th Convention of The AES, 24 Sept 2001, Pages 1-5).

Regarding claim 32, The Standard fails to disclose a data structure wherein the TS

packets forming the base stream and the TS packets forming each of the first to n-th extension

streams, which are included in the entire stream, are arranged in sequence of the TS packets to

be played back at the same time and in the order of the TS packets forming the base stream

and the TS packets forming each of the first to n-th extension streams. In the same field of

endeavor, *Kim* discloses a data structure wherein the TS packets forming the base stream and

the TS packets forming each of the first to n-th extension streams, which are included in the

entire stream, are arranged in sequence of the TS packets to be played back at the same time

and in the order of the TS packets forming the base stream and the TS packets forming each of

the first to n-th extension streams (Page 3, Fig. 3). (The system of Kim discloses a system

where the base and enhancement layers of a transmitted bit stream for a timeslot/frame are

multiplexed in layer order with the base stream first, followed by each extension stream in order

of significance [Page 3, Fig. 3].)

Therefore, since *Kim* discloses the arrangement of a scalable stream of data by adding

the component layers in order of significance, it would have been obvious to a person of

ordinary skill in the art at the time of the invention to arrange the TS bit stream of The Standard

in the order of layered significance by multiplexing the streams in the order of the significance of

each layer in a particular timeframe. The motive to combine is to allow easy scalability by

allowing the truncation of the bit stream at a particular enhancement layer simply by cutting off

the stream after the desired layers have been received.

Regarding claims 34 and 48, The Standard fails to disclose an information processing

apparatus wherein the encoding means encodes the TS packets forming the base stream and

the TS packets forming each of the first to n-th extension streams, which are included in the

entire stream, so that the TS packets to be played back at the same time are arranged in

sequence in the order of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams. In the same field of endeavor, *Kim* discloses an information processing apparatus wherein the encoding means encodes the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams, which are included in the entire stream, so that the TS packets to be played back at the same time are arranged in sequence in the order of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams (Page 3, Fig. 3). (The system of Kim discloses a system where the base and enhancement layers of a transmitted bit stream for a timeslot/frame are multiplexed in layer order with the base stream first, followed by each extension stream in order of significance [Page 3, Fig. 3].)

Therefore, since *Kim* discloses the arrangement of a scalable stream of data by adding the component layers in order of significance, it would have been obvious to a person of ordinary skill in the art at the time of the invention to arrange the TS bit stream of The Standard in the order of layered significance by multiplexing the streams in the order of the significance of each layer in a particular timeframe. The motive to combine is to allow easy scalability by allowing the truncation of the bit stream at a particular enhancement layer simply by cutting off the stream after the desired layers have been received.

Regarding claims 40 and 54, The Standard fails to disclose the information processing apparatus wherein the entire stream is input to the input means including the TS packets arranged in sequence of the TS packets to be played back at the same time and in the order of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams. In the same field of endeavor, *Kim* discloses the information processing apparatus wherein the entire stream is input to the input means including the TS packets arranged in sequence of the TS packets to be played back at the same time and in the order of

the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams (Page 3, Fig. 3). (The system of Kim discloses a system where the base and enhancement layers of a transmitted bit stream for a timeslot/frame are multiplexed in layer order with the base stream first, followed by each extension stream in order of significance [Page 3, Fig. 3].)

Therefore, since *Kim* discloses the arrangement of a scalable stream of data by adding the component layers in order of significance, it would have been obvious to a person of ordinary skill in the art at the time of the invention to arrange the TS bit stream of The Standard in the order of layered significance by multiplexing the streams in the order of the significance of each layer in a particular timeframe. The motive to combine is to allow easy scalability by allowing the truncation of the bit stream at a particular enhancement layer simply by cutting off the stream after the desired layers have been received.

Regarding claims 45 and 59, The Standard fails to disclose a non-transitory computer readable medium wherein the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams, which are included in the entire stream, are arranged in sequence of the TS packets to be played back at the same time and in the order of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams. In the same field of endeavor, *Kim* discloses a non-transitory computer readable medium wherein the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams, which are included in the entire stream, are arranged in sequence of the TS packets to be played back at the same time and in the order of the TS packets forming the base stream and the TS packets forming each of the first to n-th extension streams (Page 3, Fig. 3). (The system of Kim discloses a system where the base and enhancement layers of a transmitted bit stream for a timeslot/frame are multiplexed in layer

order with the base stream first, followed by each extension stream in order of significance [Page 3, Fig. 3].)

Therefore, since *Kim* discloses the arrangement of a scalable stream of data by adding the component layers in order of significance, it would have been obvious to a person of ordinary skill in the art at the time of the invention to arrange the TS bit stream of The Standard in the order of layered significance by multiplexing the streams in the order of the significance of each layer in a particular timeframe. The motive to combine is to allow easy scalability by allowing the truncation of the bit stream at a particular enhancement layer simply by cutting off the stream after the desired layers have been received.

7.   **Claims 36, 41, 46, 50, 55 and 60** are rejected under 35 U.S.C. 103(a) as being unpatentable over The ISO/IEC 13818-1 Standard ("The Standard") (Author Unknown, Generic Coding of Moving Pictures and Associated Audio: Systems, International Organization for Standardization, Workgroup 11 - Coding of Moving Pictures and Associate Audio, Pages 1-130, 13 November 1994), *Bruls*, et al. (US Pre Grant Publication No. 2006/0098937 A1) and *Yahata*, et al. (US Pre Grant Publication No. 2009/0010614 A1) as applied to claims 33, 39, 45, 49, 53 and 58 and further in view of Wu, et al. (US Patent No. 6,614,936).

Regarding claims 36 and 50, The Standard discloses an information processing apparatus, wherein when any of synchronization units of an extension stream corresponding to synchronization units of the base stream are present, the encoding means encodes, the extension stream and the base stream (Pages 80-81, Section 2.7.6). (The system of The Standard Discloses that if scalable coding is used, with spatial scaling, the encoder must, to the maximum extent possible, encode both layers at the same time and with the same presentation

time. [i.e. if "spatial scaling" is used, the enhancement layer may not have the same frame rate as the base layer, however, whenever the presentation times of the two layers coincide, they are coded together with the same timestamps]. Therefore, the encoder will encode all streams bearing the same synchronization information.)

The Standard fails to disclose the system may utilize more then one extension stream so that the information processing apparatus further comprises an apparatus wherein when any of synchronization units of the first to n-th extension streams corresponding to synchronization units of the base stream are present, the encoding means encodes, among the first to n-th extension streams, the extension stream having the present synchronization units and the base stream. In the same field of endeavor, *Bruls* discloses the system may utilize more then one extension stream so that the information processing apparatus further comprises an apparatus wherein when any of synchronization units of the first to n-th extension streams corresponding to synchronization units of the base stream are present, the encoding means encodes, among the first to n-th extension streams, the extension stream having the present synchronization units and the base stream (Paragraph 0003).

Therefore, since the system of *Burls* suggests the use of more then one enhancement layer and the system of The Standard discloses that only an enhancement layer that matches the presentation time (i.e. has synchronization units that correspond to the base layer) of the base layer is encoded for presentation at the same time of that base layer, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple enhancement layers of *Burls* into the system of The Standard by causing the encoder to encode the base layer and any corresponding enhancement layers for decoding at the same presentation time. The motive to combine is to allow the use of more the one enhancement layer, allowing for fine-grained enhancement of transmitted media.

The Standard as modified by *Burls* fails to disclose encoding the entire stream using a variable bit rate. In the same field of endeavor, *Wu* discloses encoding the entire stream using a variable bit rate (Column 2, Lines 10-49). (The system of *Wu* discloses a coder that uses a variable number of fine grain enhancement layers based on the available network bandwidth to encode and transmit data to a remote receiver [Column 1, Line 50 to Column 2, Line 49]. The output of the coder is in the form of a base layer and a variable number of enhancement layers [Column 1, Line 50 to Column 2, Line 49].)

Therefore, since *Wu* discloses coding a variable number of enhancement layers and the system of The Standard as modified by *Burls* discloses an encoder that receives the output of a coder and forms a base and one or more enhancement layers based on the correspondence of the base and enhancement layer synchronization units, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the variable layers of *Wu* with the encoder of The Standard as modified by *Burls* by having the coder of *Wu* transmit a variable number of enhancement layers to the encoder of The Standard as modified by *Burls*, which could then encode the present layers for transmission in a TS. The motive to combine is provided by *Wu* and is to allow for a variable number of enhancement layers in accordance with the available bandwidth of the channel, thereby allowing maximum transmission quality for a given channel (See Paragraph 0013).

Regarding claims 41 and 55, The Standard discloses an information processing apparatus wherein the entire stream input to the input means at least includes an encoded base stream, and further includes an extension stream which correspond to synchronization units of the base stream (Pages 80-81, Section 2.7.6). (The system of The Standard Discloses that if scalable coding is used, with spatial scaling, the encoder must, to the maximum extent possible, encode both layers at the same time and with the same presentation time. [i.e. if "spatial

scaling" is used, the enhancement layer may not have the same frame rate as the base layer, however, whenever the presentation times of the two layers coincide, they are coded together with the same timestamps]. Therefore, the encoder will encode all streams bearing the same synchronization information and transmit the result on the the input of the decoder.)

The Standard fails to disclose the system may utilize more then one extension stream so that the information processing apparatus further comprises an apparatus wherein the entire stream input to the input means at least includes an encoded base stream, and further includes the first to n-th extension streams which correspond to synchronization units of the base stream. In the same field of endeavor, *Bruls* discloses the system may utilize more then one extension stream so that the information processing apparatus further comprises an apparatus wherein the entire stream input to the input means at least includes an encoded base stream, and further includes the first to n-th extension streams which correspond to synchronization units of the base stream (Paragraph 0003).

Therefore, since the system of *Burls* suggests the use of more then one enhancement layer and the system of The Standard discloses that only an enhancement layer that matches the presentation time (i.e. has synchronization units that correspond to the base layer) of the base layer is encoded for presentation at the same time of that base layer, it would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the multiple enhancement layers of *Burls* into the system of The Standard by causing the encoder to encode the base layer and any corresponding enhancement layers for decoding at the same presentation time and to transmit the result on to the input of the decoder for decoding. The motive to combine is to allow the use of more the one enhancement layer, allowing for fine-grained enhancement of transmitted media.

The Standard as modified by *Burls* fails to disclose encoding the entire stream using a

variable bit rate. In the same field of endeavor, *Wu* discloses encoding the entire stream using a variable bit rate (Column 2, Lines 10-49). (The system of *Wu* discloses a coder that uses a variable number of fine grain enhancement layers based on the available network bandwidth to encode and transmit data to a remote receiver [Column 1, Line 50 to Column 2, Line 49]. The output of the coder is in the form of a base layer and a variable number of enhancement layers [Column 1, Line 50 to Column 2, Line 49].)

Therefore, since *Wu* discloses coding a variable number of enhancement layers and the system of The Standard as modified by *Burls* discloses an encoder that receives the output of a coder and forms a base and one or more enhancement layers based on the correspondence of the base and enhancement layer synchronization units, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the variable layers of *Wu* with the encoder of The Standard as modified by *Burls* by having the coder of *Wu* transmit a variable number of enhancement layers to the encoder of The Standard as modified by *Burls*, which could then encode the present layers for transmission in a TS. The motive to combine is provided by *Wu* and is to allow for a variable number of enhancement layers in accordance with the available bandwidth of the channel, thereby allowing maximum transmission quality for a given channel (See Paragraph 0013).

Regarding claim 46 and 60, The Standard fails to disclose the entire stream at least includes the base stream, and further includes the TS packets forming the first to n-th extension streams corresponding to the synchronization units of the base stream, the number of the TS packets being variable. In the same field of endeavor, *Wu* discloses the entire stream at least includes the base stream, and further includes the TS packets forming the first to n-th extension streams corresponding to the synchronization units of the base stream, the number of the TS packets being variable (Column 2, Lines 10-49). (The system of *Wu* discloses a coder that uses

a variable number of fine grain enhancement layers based on the available network bandwidth to encode and transmit data to a remote receiver [Column 1, Line 50 to Column 2, Line 49]. The output of the coder is in the form of a base layer and a variable number of enhancement layers [Column 1, Line 50 to Column 2, Line 49].)

Therefore, since *Wu* discloses coding a variable number of enhancement layers and the system of The Standard as modified by *Burls* discloses an encoder that receives the output of a coder and forms a base and one or more enhancement layer TS packets based on the correspondence of the base and enhancement layer synchronization units, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the variable layers of *Wu* with the encoder of The Standard as modified by *Burls* by having the coder of *Wu* transmit a variable number of enhancement layers and corresponding enhancement layer to the encoder of The Standard as modified by *Burls*, which could then encode the present layers for transmission in corresponding TS packets for each layer. The motive to combine is provided by *Wu* and is to allow for a variable number of enhancement layers in accordance with the available bandwidth of the channel, thereby allowing maximum transmission quality for a given channel (See Paragraph 0013).

Response to Arguments

8.   Applicant's arguments, see Applicant's arguments and remarks, filed 8 April 2011, pages 19-22, with respect to the rejection of claims 25, 27, 37 and 42 under 35 USC 101 have been fully considered and are persuasive. The previous grounds of rejection have been withdrawn.

The issue at hand is are claims 25, 27, 37 and 42 directed to a practical application of an abstract idea implemented using a particular machine, so as to remove them from the scope of unpatentable subject matter as presented in Bilski v. Kappos? Bilski v. Kappos 130 S. Ct. 3218, 95 USPQ2d 1001 (2010).

Upon re-evaluating claims 25, 27, 37 and 42, the claims do provide indications that they are directed towards a practical application of an abstract idea. For example, although the claims are directed to the abstract idea of using priority information to separate streams of traffic, they are practically applied to the separation of base and extension streams in the context of a transport stream, which is a term of art with respect to MPEG encoding. Furthermore, a particular machine is implied in the performance of the specific encoding, decoding and packetizing steps, which require appropriately programmed computer hardware. Therefore, the previous rejection of claims 25, 27, 37 and 42 under 35 USC 101 has been withdrawn.

9.   Applicant's arguments, see Applicant's arguments and remarks, filed 8 April 2011, pages 22-23, with respect to the rejection of claims 31 and 44 under 35 USC 192(b) in view of The ISO/IEC 13818-1 Standard have been fully considered and are persuasive. The previous grounds of rejection have been withdrawn.

The issue at hand is do the claims merely recite a pure data structure, such that the claimed subject matter is merely non-functional descriptive material stored on a computer readable medium or is the claimed subject matter directed to functional descriptive material? If the claims are directed to non-functional descriptive material, then they are to be assigned no patentable weight are properly rejected under 35 USC 102(b) in view of The ISO/ICE 13818-1

standard. See MPEP 2106.01.

Subject matter stored on a computer readable medium may be classified as functional or non-functional descriptive material. Non functional descriptive material is information recorded on a computer readable medium that represents mere data stored on a computer readable storage medium. Among the examples of non-functional descriptive material given in MPEP 2106.01 are music, literary works and a compilation or mere arrangement of data. The key factor in determining if material stored on a computer readable medium is functional descriptive material is does the recorded material impart functionality when employed as a computer component. For example, in In re Lowry, the court considered if a claim directed to a data structure stored in memory comprising a number of interrelated attribute data objects was merely "printed matter" that is given no patentable weight, and if presented in isolation, gives rise to a rejection under 35 USC 101. In re Lowry, 32 USPQ2d 1031, 1033 (1994). The key to the courts decision that the claimed subject matter was not "printed matter" was the fact that the application data objects represented more then merely the underlying data stored in the database, as they "depend[ed] functionally on the data content". Id at 1034.

Turning to the present application, claims 31 and 44 are analogous to the attribute data objects of In re Lowry, as the identifier information of the TS packet headers is not a part of the underlying data that is being stored, but instead functionally depends on if the underlying data belongs to the base or enhancement stream. Therefore, the rejection of claims 31 and 44 as anticipated by he ISO/ICE 13818-1 standard is withdrawn, as Applicant's arguments have been found persuasive.

10.   The remainder of Applicant's arguments filed 8 April 2011 have been fully considered but they are not persuasive.

Regarding claims 24-27, 29-31, 33, 35, 37-39 and 42-44, Applicant's argument that Yahata, et al. is not prior art with respect to the present application have been considered and are not persuasive. Although foreign priority has been properly perfected under 35 USC 119(a-d), no support under 35 USC 112, 1st paragraph can be found for the subject matter of using a priority indicator to de-multiplex the base and enhancement layers. Therefore, *Yahata*, et al. remains valid prior art with respect to the claimed features.

The issue at hand is has the Applicant met the requirements to properly claim priority to Japanese Application No. 2004-030214 under 35 USC 119(a-d) and, if so, does the foreign priority document provide support under 35 USC 112, 1st paragraph, for the claimed elements put fourth as being taught by the Yahata, et al? If it is found that the requirements of 35 USC 119(a-d) are met and support is provided for the claimed elements taught by Yahata then Yahata will not be a proper reference with respect to the present application, as the foreign priority date of 6 February 2004 predates the 35 USC 102(e) date of 7 October 2004 given to Yahata, et al.

Turning to the issue of whether priority to Japanese Application No. 2004-030214 under 35 USC 119(a-d) has properly been claimed, it is found that the requirements of 35 USC 119(a-d) have been met, as the application date is less then 12 months form the foreign priority date and a certified copy and translation of the foreign priority document have been provided.

Therefore, the issue becomes does Japanese Application No. 2004-030214 ("The Foreign Application") provide support for the claimed subject matter of de-multiplexing the base and enhancement layers on a transport priority indicator, which is put fourth as being taught by

Yahata, et al? The Applicant argues that it does and points to paragraphs 0055 and 0108 of the translation of The Foreign Application, which indicate that the system assigns a unique PID to the base and enhancement layers, which is used at the receiver to separate out higher layers that it is incapable of decoding. This argument is not persuasive for three reasons. First, the specification provides no indication that the PID value is used as a priority indicator for the *transport* of the packets, but only indicates that is used by a decoder to determine the "priority" of the layers to decode by allowing a receiver to de-multiplex and decode the base layer and as many of the incrementally numbered enhancement layers as it supports. Second, looking to the Applicant's specification, the term "priority indicator" is given a specific meaning and is indicated to be a second indicator in addition to the PID that is used to establish the transport priority of the streams and should not be interpreted to be simply the assignment of different PID values for the different streams, as this is inconsistent with the specification (See Paragraph 0201 - "Referring to Fig. 26, in order to identify the type of TS packet, *transport_priority* (written as tp in Fig. 26) is used instead of Sub_id…the TS packetizing section 312 *adds PID and transport_priority to the header of each TS packet.*"). This inclusion of the transport priority in addition to a PID common to the stream is also carried into several of the claims that the applicant argues are supported by the original disclosure (See, for example, independent claims 31, 33, 37, 38, 39, 42, 43, 44, 47, 51, 53, 56, 57 and 58 representing the bulk of the claims the applicant argues is supported). Finally, even if Applicant's arguments were to be accepted, the rejection of a system that utilizes a unique PID to identify and "prioritize" each of the base and enhancement layers has already been addressed and rejected during the course of prosecution using art that antedates the Applicant's foreign priority date (See, for example, the rejection of claims 1 and 4 in the Non-Final office action, dated 9 June 2010). Therefore, Applicant's arguments that The Foreign Application provides support for the claimed subject matter under

35 USC 112, 1st paragraph have been considered and are not persuasive.

Regarding claims 47-60, Applicant's argument that Yahata, et al. in combination with the other recited references fails to disclose the use of a common first ID and a second identifier that differs from the first ID to distinguish the first to nth extension streams, Applicant's arguments have been considered and are not persuasive, in view of the teachings of *The Standard* as modified by *Burls* of the need to separate a base layer from multiple enhancement layers, as combined with the teaching of *Yahata* that a priority indicator can be used to separate layers of a packetized elementary stream that share a common PID (See *Yahata*, Paragraphs 0298 and 0326-0338) (See also claims 47-60, supra). Applicant's argument that The Standard as combined with *Burls* discloses the use of multiple PIDs to separate the base and one or more enhancement layers is correct, but fails to take into account the teachings of *Yahata* indicating that a priority indicator, as opposed to a PID, may be used to de-multiplex layers in a packetized elementary stream that may bear a common PID, a teaching that would have lead a person of ordinary skill in the art to implement the base and enhancement layer separation of the system of The Standard as modified by *Burls* by using a priority indicator for demultiplexing packets as opposed to a separate PID (See claims 47-60, supra).

Regarding claims 47-60, it is also noted that just as Japanese Application No. 2004-030214 ("The Foreign Application") does not provide support for the use of priority indicators for differentiating among several streams with a common first ID (i.e. a "PID"), it also does not disclose the differentiation of several streams with a common first ID (i.e. PID) using a second identifier, as it appears to be solely directed to using different PIDs to differentiate the base and enhancement layers. Therefore, *Yahata*, et al. remains prior art with respect to claims 47-60 and is properly used to reject claims 47-60, as indicated, supra, as the priority date of *Yahata*, et al. antedates the application date of the present invention if the benefit of priority to The Foreign

Application is not given.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Crutchfield whose telephone number is (571) 270-3989. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on (571) 272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Crutchfield/
Examiner, Art Unit 2466
6/13/2011

/Daniel J Ryman/
Supervisory Patent Examiner, Art Unit 2466